DOCUMENT RESUME

ED 133 455 CE 008 614

AUTHOR	Sheppard, N. Alan, Ed.
TITLE	Regional Research Conference in Vocational and Technical Education for Secondary and Post-Secondary Personnel. Annual Research Conference in Vocational and Technical Education (1st, Blacksburg, Virginia, April 16-17, 1976).
INSTITUTION	Virginia Polytechnic Inst. and State Univ., Blacksburg. Div. of Vocational-Technical Education.
SPONS AGENCY	Virginia State Advisory Council on Vocational Education, Blacksburg.
PUB DATE	Jun 76
NOTE	181p.
AVAILABLE FROM	Harry L. Smith, Public Information and Publications, State Department of Education, Richmond, Virginia 23216 (Order Number CP-6, $3.00)
EDRS PRICE	MF-$0.83 HC-$10.03 Plus Postage.
DESCRIPTORS	Conference Reports; *Educational Research; *Federal Legislation; Post Secondary Education; *Research Methodology; Research Projects; *Research Utilization; Secondary Education; Speeches; *Vocational Education

ABSTRACT

Major contents of these conference proceedings are 10 addresses presented to the whole conference of 62 educators or to small interest groups. Major addresses were (1) "The Importance of Research in Vocational and Technical Education," by J. Robert Warmbrod, (2) "The Impact of Federal Funds and Establishment of Priorities for Research in Vocational and Technical Education," by Glenn Boerrigter, and (3) "Limitations on Data Collection Under New Federal Legislation," by Dave Alexander. Three shorter addresses are on the impact of research at the secondary and postsecondary levels in vocational education. Four presentations to special interest groups deal with proposal writing and project planning, planning and conducting evaluation and followup studies, developing management information systems, and critique and selection of designs for investigating problems in vocational-technical education. Short summaries of four recently completed research projects and an analysis of evaluation forms are also included along with four appendixes: Conference program, list of conference participants, reference materials on proposal writing and project planning, and Virginia vocational education management information reporting forms. (HD)

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FIRST ANNUAL RESEARCH CONFERENCE IN VOCATIONAL AND TECHNICAL EDUCATION

REGIONAL RESEARCH CONFERENCE IN VOCATIONAL AND TECHNICAL EDUCATION FOR SECONDARY AND POST-SECONDARY PERSONNEL

April 16-17, 1976
Blacksburg, Virginia

Edited By:

N. Alan Sheppard

The College of Education
Virginia Polytechnic Institute
and State University
Blacksburg, Virginia

in cooperation with

Virginia State Advisory Council
on Vocational Education
Blacksburg, Virginia

U S DEPARTMENT OF HEALTH, EDUCATION & WELFARE
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June, 1976

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TABLE OF CONTENTS

	Page
FOREWORD	vi
ACKNOWLEDGEMENTS	vii
INTRODUCTION	1
N. Alan Sheppard, Conference Director	
MAJOR ADDRESSES	
The Importance of Research in Vocational and Technical Education	5
Dr. J. Robert Warmbrod President of American Vocational Education Research Association and Professor of Agricultural Education The Ohio State University	
The Impact of Federal Funds and Establishment of Priorities for Research in Vocational and Technical Education	19
Dr. Glenn Boerrigter Chief of Research Branch Bureau of Occupational and Adult Education Washington, DC	
Limitations on Data Collection Under New Federal Legislation	37
Dr. Dave Alexander Division of Administrative and Educational Services College of Education VPI & SU	
MINI ADDRESSES ON IMPACT OF RESEARCH AT THE SECONDARY AND POST-SECONDARY LEVELS IN VOCATIONAL EDUCATION	50
Overview of The Impact That Research Has Had At The Secondary Level in Vocational Education	51
Mr. Walter S. Ramey Department Secondary Education Virginia Commonwealth University Richmond, Virginia	

Page

A Critique of Occupational-Technical Research at Community Colleges 56

Dr. Fred Snyder, Director
Research and Development for the
Virginia Community College System
Richmond, Virginia

Assessing the Impact of Vocational-Technical Education Research on Higher Education (Four Year Colleges and/or Universities) . . . 63

Dr. Barry L. Reece
Associate Professor of Distributive Education
VPI & SU

SPECIAL INTEREST GROUPS

Proposal Writing and Project Planning 70

Dr. J. Robert Warmbrod
President of AVERA
The Ohio State University
and
Tom Lozito
EPDA Fellow and Doctoral Student
VPI & SU

Planning and Conducting Evaluation and Follow-Up Studies 82

Dr. Dave Pucel
Professor of Vocational Education and Research
University of Minnesota

Developing Management Information Systems in Vocational and Technical Education 87

Mr. L. M. Jewell
State Supervisor
Vocational Education Research and Statistical Information
Richmond, Virginia
and
Dr. Don Elson
Division of Vocational and Technical Education
VPI & SU

Critique and Selection of Designs for Investigating Problems in Vocational-Technical Education 100

Drs. Curtis Finch and Pat O'Reilly
Division of Vocational and Technical Education
VPI & SU

Page

MINI PRESENTATIONS OF RECENTLY COMPLETED RESEARCH PROJECTS AT THE SECONDARY AND POST-SECONDARY LEVELS

Career Development Counseling With Video Tape Recording 114

Mr. William Bias
Mr. Jesse Zedd
New Kent County Schools

Follow-Up Study of Virginia Occupational Technical Students at Virginia Community Colleges 116

Dr. Edith Carter
Director of Institutional Research
New River Community College

Change Orientation and Perceptions of Emerging Professional Roles Held by Teachers of Home Economics in Virginia 125

Dr. Florence Hood
Department of Home Economics
Norfolk State College

The Comparative Cost of Funding Vocational and Non-Vocational Subjects in the Senior High School in Three Virginia Locations 135

Mr. Robert Wooldridge
Director of Vocational Education
Norfolk City Schools
Norfolk, Virginia

ANALYSIS OF EVALUATION FORMS 140

APPENDICES

Appendix A - Conference Program 143

Appendix B - List of Conference Participants 147

Appendix C - Reference Materials on Proposal Writing and Project Planning 152

Appendix D - Virginia Vocational Education Management Information Reporting Forms 161

FOREWORD

Approximately 62 educators (from local school divisions, community colleges and four year institutions) state department personnel, project directors, representatives from federal agencies, and graduate students from the states of Kentucky, Massachusetts, Montana, Tennessee, Maryland, West Virginia, Wisconsin, Virginia and the nation's capitol participated in the First Annual Regional Research Conference in Vocational and Technical Education for Secondary and Post-Secondary Personnel. The general objectives of the conference, conducted April 16-17, 1976, at the Donaldson Brown Center for Continuing Education, Virginia Polytechnic Institute and State University, Blacksburg, Virginia, were:

1. To develop efficiency in conducting research and developmental activities at the secondary and post-secondary levels.

2. To assist in the development of research competencies by presenting and discussing various strategies of research methodology.

3. To assess the impact of research in vocational and technical education at both secondary and post-secondary levels.

4. To stimulate the initiation of research-related efforts at the secondary and post-secondary levels.

Nationally recognized research leaders in vocational education were selected for expertise in project planning, proposal writing, evaluation and follow-up studies, research design and methodology, federal funding, and management information systems. Four special interest groups were available for participants and four mini presentations of research completed at secondary and post-secondary levels were reported.

Special appreciation is extended to the VIRGINIA STATE ADVISORY COUNCIL ON VOCATIONAL EDUCATION which financially sponsored the publication of these proceedings and assisted in the development of the conference itself.

N. Alan Sheppard
Conference Director

ACKNOWLEDGEMENTS

A special thanks is extended to Dr. Dewey A. Adams, Division Director for Vocational and Technical Education at VPI & SU for financial support and the belief that such a conference would serve a useful purpose. Without his support the research conference would only have been an idea.

Additional thanks are extended to the participants who braved an Easter weekend to help make our first regional research conference, as indicated by both formal and informal evaluations, quite successful. Also, gratitude is expressed to members of the conference planning committee for their dedication to the conference in both the planning and program phases of the conference. These persons are:

Dr. Rufus Beamer
Ms. Dolores Johns
Ms. Patricia King
Dr. Donald Kohns
Dr. Era Looney
Mr. Tom Lozito
Dr. Martin McMillion
Dr. Dale Oliver

- NAS

INTRODUCTION

N. Alan Sheppard
Conference Director

With implementation of the 1968 Amendments to the 1963 Vocational Education Act the recognized need for research and development in vocational and technical education has become increasingly important. Opportunities now exist for the initiation of research and development activities at both the secondary and post-secondary levels.

We in vocational education at Virginia Tech do not expect research to solve all problems in our discipline nor the education profession; however, we do feel that certainly research should be able to contribute to problem solving.

Leaders in all fields are continually evaluating new ideas and innovations for possible application to their situations. Vocational educators have actively participated in research projects much longer than many other groups of educators. However participation in pilot and dissemination projects in vocational and technical education have been more common than involvement in experimental educational research. We have accepted the value of research in vocational and technical education. Again, we've been involved with research for a long time.

Educational research is still in its infancy, and some educators do not have much confidence in its possibilities; this may also be true of some vocational educators. Yet, we agree that more facts are needed for the sound solution of educational problems. Educational research can provide the tools and methods for these fact finding expeditions; it can be used to evaluate all aspects of a prospective innovation instead of just the highlights that we may find convenient to remember. Reliance on these facts from controlled observations can provide a sounder base for present and future educational decision-making.

The conference was planned because of our belief that the opportunities for the immediate application of educational research are all around us and that, again, research has been and will continue to assist us in educational decision-

making and the verfication of knowledge. BUT, if this is to happen in vocational education--if we're to seize the opportunities for research--if we're to capture the research imagination then we're going to need a well trained cadre of consumers and producers of research in vocational education and, of course, it is to that end this conference was convened. While we were concerned with research during this conference at both described levels--secondary and post-secondary--we were especially conscious of the fact that research must be extended beyond the colleges and universities to places of practical application--the secondary level. More research needs to be initiated at the local level with the help of administrators, or research coordinators in the local schools.

We have more research studies in progress than ever before. In fact, we have more researchers than ever before. Further expansion of research in vocational education will depend, in part, upon the results of our present efforts; and, of equal importance, having the "guts" to ask the right questions--even though the questions might shake-up the status quo or challenge the "sacred cows" of vocational and technical education.

MAJOR ADDRESSES

THE IMPORTANCE OF RESEARCH IN VOCATIONAL AND TECHNICAL EDUCATION*

J. Robert Warmbrod, Professor
Department of Agricultural Education
The Ohio State University

I begin my remarks by relating an incident described to me by a teacher in an area vocational school in Ohio. A student, Jim, was enrolled in a certain vocational course--let's call it Course A--during his junior year. He showed little enthusiasm for the course or for school in general. His attendance was poor and, as you would expect, his grades, including grades in the vocational course, were marginal, at best. At the end of his junior year, Jim elected or was counseled to enroll for a different course during his senior year--let's designate this new course as Course B. During his senior year, Jim's attitude, motivation, and performance were about as different from the previous year as possible. He was highly motivated; he performed exceptionally well both in courses and on the job. He attended school regularly and his grades were the highest he had ever earned. In fact, his employer for supervised occupational experience asked school officials at mid-year whether arrangements could be made for Jim to work full-time so that Jim could help train other employees. At the end of the senior year, Jim was recognized as the most outstanding student in the area vocational center.

I begin with this true episode as a means of encouraging you to begin thinking about research in vocational education. I ask you to speculate about these questions: Why did Jim change his behavior? What factors can explain why

---

*Presented at Regional Research Conference in Vocational & Technical Education for Secondary and Post-Secondary Personnel, Virginia Polytechnic Institute and State University, Blacksburg, April 16-17, 1976.

Jim performed much better in Course B than in Course A? How could we find out why Jim changed his behavior? We might even want to consider this question: Is it important to explain why Jim performed differently in the two courses? I will return to this incident near the end of the presentation for it illustrates some of the points I want to discuss with you about research in vocational and technical education.

Some persons are somewhat skeptical about the value and use of research in education in general and research in vocational and technical education in particular. Perhaps some of you share that skepticism. On occasion research is characterized as an activity for professors or certain individuals in state departments of education. Some persons claim that researchers spend their time on insignificant concerns with little attention to practical problems. Others, sometimes administrators perhaps, point out that the research process is frequently too slow to provide data for decisions that need to be made today, not three years from now when the project will be completed. Even when the research is completed, there is some evidence that researchers tend to write reports that range from difficult to impossible to understand--at least by persons who are not researchers. We fill our reports with terms like chi square, analysis of variance, multi-stage cluster sampling, level of statistical significance, and the like when those who probably have greatest need for the research may be interested in questions such as these: What was the problem investigated? What are the valid findings? What are the implications of the findings for policy and program development or revision?

Your presence at this conference indicates an interest in research and the research process. I want to share with you some thoughts about the appropriate application of the research process to problems and issues in vocational and technical education. My position is that research is of utmost importance to those of us in vocational and technical education. It is also important that we

understand the process and use it wisely and appropriately.

What Is Research?

What is research? We can find a very scholarly-written definition in any introductory textbook on research methodology. Instead of reciting a definition of research, I propose that we look at the process from a slightly different point of view. A goal of research that is of major concern to those of us attending this conference is that research needs to be directly connected with practice, that is, the new knowledge and new products developed through the research process need to make direct contributions to practice in vocational and technical education programs. We conduct research that contributes to the development of new practices, products, programs, and policies. We install or adopt new programs and policies then conduct research to see if the hoped for outcomes are actually achieved. In effect, we use the research process to provide data for decision making. The research process can be used to provide information for formulating and revising policy, for developing programs and instructional products, and for evaluating whether or not the outcomes expected are actually accomplished.

The definition of research that I like is one given by the late Professor H. M. Hamlin of the University of Illinois:

> Research is an unusually stubborn and persisting effort to think straight, which involves the gathering and the intelligent use of relevant data. (American Vocational Journal, September, 1966)

Note that research is a process. It is a process that begins with a feeling of perplexity, with a hunch that something could be changed, or with a curiosity about an idea or an event that is not satisfied. The process involves a clear and precise definition of the problem to be investigated, a search of what is already known about possible solutions or answers, and the formulation and testing of alternative solutions. Here is where we collect and intelligently use relevant data. A part of the process that we slight sometimes is the

reporting of the research. It is important that we remember that the research process is not complete until both the process and the outcomes of the process are made public.

You know the research process as the method of science--the scientific method. Some persons perceive the scientific method as a dull, laborious, and infrequently used process. On the contrary, all of us use the process many times each day as we formulate and test alternatives and as we make decisions. John Dewey described the systematic inquiry process as "reflective thinking." I like this description of the method of science:

> People talk about the "scientific method" as if it were some magic computer-like method of solving all of our thinking problems. There is nothing magical about it, but only a slightly formal kind of common sense: What is the question? shall I seek the answer through experimentation, or reading what different people have discovered? how do my results stack up after considering the negatives as well as the positives? where can I go from this answer so as to evolve my own theory or solution? (Royal Bank of Canada Monthly Letter, February, 1971)

Selecting Problems for Research

How do we operationalize, then, this "slightly formal kind of common sense" approach in the investigation of problems in vocational and technical education? How do we apply straight-thinking in a "stubborn and persistent" manner as we design, conduct, and report research?

The beginning point must be the identification and selection of significant and relevant problems and issues. Professor Hamlin, who I quoted earlier, said that "Ideas and concepts are the first requisite for good research. Research without important ideas is busywork." One legitimate criticism of research in education, including research in vocational and technical education, is that it does not deal with important "real-world" problems. You have a unique opportunity to remedy that for you are engrossed in these "real-world" problems every day. Perhaps your dilemma is that of choosing from an array of problems and issues those that warrant highest priority for study and

investigation.

I suggest that an appropriate strategy for selecting significant problems for research in vocational and technical education is to examine our "sacred cows," that is, those practices and policies that we take for granted. Are we who work in vocational and technical education willing to put our "sacred cows" to the test of systematic inquiry? Occasionally we encounter research on what appears to be an outlandish problem. Congressmen and Senators are known for calling these examples to our attention whenever they review research projects funded by public agencies. My point is that we should look beyond the title of the research project before making judgment concerning the feasibility and significance of the endeavor. Research that appears to be outlandish or nonsensical may not be as absurd as we think.

Let me illustrate. A few years ago an article titled "Talking Eggs" appeared in a publication of the U. S. Department of Agriculture. The article was a report of research designed to investigate whether unhatched eggs communicate with each other. A skeptical and irate reader wrote the editor of the publication claiming that there were more appropriate uses of public funds than for some scientist to try to find out if eggs communicate with other eggs. The editor asked the scientist to reply to the reader's letter. Here is part of what the scientist wrote:

> You're right, sometimes it seems that some of our scientists are not using good common sense in some of their research. However, modern scientists are trained to look for unusual methods and to use sophisticated tools to solve tough problems . . . For example, anyone using common horse sense would know that you can't get anywhere incubating eggs from turkeys which have not been mated. Yet in 1953, a scientist did just that, and discovered that the eggs hatched resulting in fatherless turkeys. Some people may still wonder about the value of fatherless turkeys, but they have turned out to be of tremendous interest for science. (Agricultural Situation, September, 1970).

I use this example in a research methods course I teach. A couple of years ago on the day I had used the example in class, the following headline to a page-one article in the Wall Street Journal caught my eye.

The Birds and Bees Can't Explain Births
of Certain Turkeys

> Mother hens can have poults and keep their virtue, too; Is a virus better than sex? Here's a question for you: Can a virgin turkey be a mother?
>
> According to poultry scientists here at Pennsylvania State University, the answer is an unequivocal yes. As a matter of fact, they say, virgin births occur so often in turkey circles these days, they hardly raise eyebrows anymore.

My point is that you are in a position to identify some of the tough and significant problems in vocational and technical education that should be researched. Indeed, some of these problems may even be somewhat unusual--maybe even outlandish. There are also ordinary and routine problems that need investigating. My argument is that research in vocational and technical education is of little value unless the problem being researched is worth investigating. On occasion graduate students ask how they can decide what problem to investigate. They imply that the method of sicence involves some systematic and objective mechanism whereby significant problems for research can be identified. Needless to say, they are usually disappointed when I suggest that the selection of significant researchable problems is in large part the application of good common sense and the use of the best advice available from experts. You are some of those experts when it comes to identifying relevant problems and issues for research in vocational and technical education.

Types of Research Problems

Remember, problem identification is only the first step in the process of systematic inquiry. Basically, research problems can be categorized into three groups based upon the purpose to be accomplished by the research, or stated another way, grouped according to the intent of the investigator. First, there are investigations designed primarily to describe groups or situations. In vocational and technical education these are studies designed primarily to

describe the characteristics, competencies, or performance of persons who are enrolled in or have completed certain programs. A second category of research questions includes concerns such as: What factors tend to accompany certain outcomes of educational programs? Why do things happen the way they do? Here the intent of the researcher is to study the relationship--correlation--between variables. Vocational and technical education studies of this nature frequently involve an investigation of the relationship between outcomes of educational programs and characteristics of students, the nature and type of educational activities experienced, and the nature of the environment or setting in which the educational program is conducted. The third category of research questions includes this type of question: What are the outcomes--effects--produced by a certain program? Here the researcher wishes to establish a causal relationship between certain inputs and the outcomes that are observed.

In research parlance, studies designed to describe groups or situations are usually labeled surveys, or sample surveys; research designed to investigate relationships between variables is correlational research; and when the intent is to establish cause-effect relationships, experimental research is called for.

Research in vocational and technical education is useful only if properly conducted and interpreted. I want to call your attention to some major and worrisome methodological problems usually encountered when conducting research.

Descriptive Research. When the investigator's intent is to describe accurately, that is, when survey research strategies are being used, data are usually collected by mail questionnaire or interview. An immediate concern that must be dealt with is response rate, particularly when mail questionnaires are used. How can an accurate description of a group or situation result if data are available from one-half or less of those who were asked to respond? The researcher must devise ways of getting sufficient and nonbiased responses if the research is to be valid. In an effort to encourage response to a mail survey,

one school system printed the following on the envelopes in which the questionnaires were mailed:

> Warning: If you throw this in your waste basket unopened, a capsule of water inside will break, spilling onto a dehydrated gorilla. He will then jump out of the envelope and hug you to death.

In descriptive research it is one thing to get responses, but another equally important concern is the accuracy of the data reported. I will illustrate with this conversation between the turtle and the bug in the Pogo comic strip.

Turtle: To ease your mind on humans we should take a big fat survey.

Bug: An' then refer the report to a committee?

Turtle: Right . . . then the committee could issue a prognostic preview and Congress could call for a vote.

Bug: Forestallin' the revolution?

Turtle: Sure . . . we'd query all types . . . bugs, mongeese, antelopes, bandicoots . . . all them . . . and find out how many hidden humans there are.

Bug: We'd ask human beans too?

Turtle: To be scrupulous fair, yeh.

Bug (This is the punch line): How could you be sure some of them wouldn't lie about it?

We need to be aware that some persons from whom we request data simply conclude that what is being asked is none of our business; others want to make themselves look good so they tend to answer the way they perceive they are expected to answer; and then there are those who, as the bug says, "lie about it." Perhaps a solution to these measurement error problems is the procedure described in the following discussion between Pogo, the possum, and three rats who are employed as pollsters for the local survey research agency in the swamp.

Pogo: So you rats are gonna be pollsters for P. T. Bridgeport?

First rat: Yep . . . altho P. T. don't always play it fair.

Second rat: Yeh . . . last time we run a poll for him if he didn't like our results, he changed the whole thing.

Third rat: Very embarrassin'.

Pogo: I should guess so . . . that'd make the prognostication wrong!

First rat: Well, what was most embarrassin' was it made it right.

Correlational Research. When designing and conducting correlational research, an important concern is the interpretation of the relationships that are described. In essence, we must be careful not to interpret correlation as causation.

Let me highlight this concern by describing briefly a study completed by a graduate student who was investigating this question: What is the relationship between the extent to which high school students participate in a vocational students' organization and their capabilities in leadership, citizenship, and success on the job? The researcher hypothesized that the more a student participates in a vocational students' organization the more capable a leader and citizen and the more successful on the job after completing high school. What were the findings? As you might well suspect, the investigator found that the more a student participates in activities of a vocational students' organization (FFA, FHA, VICA, and others) in high school the higher he or she is rated in leadership and citizenship and the more successful he or she is on the job. Creditable correlational research does not end with that finding and an accompanying interpretation linking in a direct if not causal fashion the degree of participation in students' organizations with certain outcomes. The proper interpretation of correlational research requires additional probing. In this study the investigator also found that the higher a student's grades in high school, the higher the student was rated on leadership, citizenship, and job success. Similar relationships were found for variables like socioeconomic status

and the number of years of vocational education completed. The facts are that there are several factors, in addition to extent of participation in a students' organization, that are related to leadership, citizenship, and job success. But note these additional findings. The investigator also demonstrated that students participating to the greatest extent in the activities of a students' organization were those who earned higher grades, were from families with higher socioeconomic status, and had completed more years of vocational education in high school. Remember, each of these factors was also associated with leadership, citizenship, and job success. Note that these additional findings substantially qualify, some would say disqualify, an interpretation that links directly participation in a students' organization and students' leadership, citizenship, and job performance abilities.

My point is that the proper interpretation of correlational research is difficult. A less serious example illustrates the point well. There is a relatively high positive correlation between the salary received by the clergy and expenditure for alcoholic beverages. The higher the salary paid clergy the higher the expenditure for alcoholic beverages in the community. In the northern states during the summer months, there is a high positive correlation between the monthly number of deaths by drowning and the gross monthly sales of ice cream cones. To describe the magnitude and direction of these relationships is one thing, but to claim that deaths by drowning can be eliminated by a law banning ice cream parlors makes about as much sense as to argue that the salaries of clergy will increase if we consume more booze.

Experimental Research. The findings of experimental research must be interpreted with caution also. If we are to draw valid cause-effect interpretations, we must take special precautions to rule out plausible rival explanations for interpretations that certain factors cause certain outcomes. The difficulty I am calling to your attention is indicated by the following:

> Dear Abby: I have just started to date, and I have a problem which is common to most girls my age. It seems that every time that I go out with a boy, if I let him kiss me on the first date I never see him again. But then if I don't let him kiss me, I will never see him again either. So how is a girl supposed to know what to do? Just wondering.
>
> Dear Just--She can assume that whether she kisses a boy or not on the first date has nothing to do with whether she ever sees him again. And go to work on other possible causes for being a one-date-dolly.

If experimental research is properly designed and conducted, "other possible causes" for the outcomes observed are controlled or discounted; hence valid cause-effect interpretations are possible. As producers and consumers of research in vocational and technical education, we must insure that in designing and interpreting experimental and quasi-experimental research that precautions are taken to rule out those extraneous or intervening factors that invalidate findings stating that the outcomes observed are caused by certain factors or programs.

Even if the research is valid--that is, the findings are true--we also have to consider the extent to which the findings can be generalized. Stated more directly, we ask this question: To what groups, to what settings and situations, to what points in time, and to what measurements can the results be applied? In other words, can we extrapolate, or transport the results to other groups, other situations, other points in time, and the like?

I will illustrate with a television and radio commercial with which you are probably very familiar. The early versions of the commercial included this statement: "Two Excedrin are more effective for the relief of pain than twice as many aspirin." When we hear a statement such as this, I suspect that the pain most of us think about is headache. As you might expect, at least one manufacturer of aspirin objected to the commercial claiming that the information in the commercial was not true; in other words, the credibility or validity of the information was questioned. The manufacturers of Excedrin defended the commercial claiming that the information was based upon an accurate and truthful summary of a clinical study done by reputable and expert scientists. They

added, however, that the commercial referred to a different kind of pain--not pain suffered by people with splitting headaches but by women who had just given birth! So you see, the validity of information--the validity of the findings of research--is one concern; but another concern with which we must be aware is whether or not the information is applicable, is generalizable, to groups and environments other than the specific circumstances at the time the research was conducted. Incidentally, the next time you see or hear that Excedrin commercial, note that the phrase "a different kind of pain" has been inserted in the commercial.

Reiteration. Let me reiterate briefly. Basically, research in vocational and technical education is designed to answer one or more types of questions. Some research has as its major focus this question: What are the facts? I label this research descriptive or survey research. Other researchers ask the question: What factors explain--what factors are related to--certain outcomes? Research designed to answer these kinds of questions is correlational research. Still others probe questions like: What factors cause certain outcomes? That type of question can only be answered validly through experimental research. My point is that interpretation of the findings of research must not go beyond what is intended by the researcher and what is warranted by the design and conduct of the research. I suggest that we be more cautious in interpreting research than the interpretation indicated by this conversation from a Wizard of Id comic-strip episode.

> Wizard (speaking to the King): My studies show a direct correlation between increased taxes and crime rates.
>
> King: What conclusions have you drawn?
>
> Wizard: They can steal it as fast as you can.

Summary

In summary, what does this assortment of comic-strip wisdom and Dear Abby

correspondence have to do with the importance of research in vocational and technical education? I hope it has helped to make clear and illustrate three basic points. First, it is important that we apply the research process in planning, implementing, and evaluating programs in vocational and technical education. Remember, research--the scientific method--is a process that requires that we be aware of our certainties and to admit that we have doubts. Second, the research process requires that we begin with significant and crucial problems that have import both for the present and the future of vocational and technical education. And third, the process demands that we collect relevant data and that we intelligently use and interpret the data. The research that we conduct and the outcomes of that research will be valid only to the extent those of us conducting and interpreting the research make it so. That appears to me to be the goal of this conference.

Let's return to Jim, the student I referred to at the beginning of this presentation. Why did Jim's behavior in school change so dramatically from his junior to senior year? Was it because Course B was better than Course A? Maybe the teacher of Course B was more effective; maybe Jim's attitude toward school and things in general changed; maybe his parents brought about the change. I do not know what explanations you propose; but if you have formulated some possible explanations, you are involved in the research process. The next step is to collect data to see if your hunch--your most plausible explanation--is confirmed.

I suspect that most of us would prefer an explanation that links the new course or the new teacher to Jim's marked change in behavior. Was the new course in which Jim enrolled his senior year the factor accounting for his change in behavior? The teacher relating the incident was not naive enough to answer "yes." In fact, the teacher was perceptive enough to answer "no." The reason for that response was the teacher knew that Jim was married between the end of the junior

year and the beginning of the senior year--a happening prompted, by the way, by the fact that his becoming a father was imminent. This new responsibility, which undoubtedly Jim took very seriously, was the factor the teacher credits as the prime motive for Jim's change in behavior. In fact, the teacher was very emphatic and indicated that he was well aware that the same results could have been observed had Jim been enrolled in any course in the school. It wasn't the course that made the difference; it was Jim who made the difference.

The lesson is that we look for those "other possible causes" when we design and use research. We must not automatically assume that when we get the results we are looking for that the results are always produced by the factors we expected. This conference is designed to increase your competence as a researcher and to help you become a more discerning consumer of research. That being the case, I am certain that you will neither conduct nor interpret research as described by the following:

> Test 1. Remove the front two legs from a grasshopper and place it on a table top. Give the verbal command: Crawl! Result: Grasshopper crawled.
>
> Test 2. Remove the second set of front legs from the same grasshopper and replace it on the table top. Give the verbal command: Crawl! Result: Grasshopper crawled.
>
> Test 3. Remove the back legs from the same grasshopper, leaving him no legs and replace it on the table top. Give the verbal command: Crawl! Result: Grasshopper did not crawl.
>
> Conclusion: It has been determined beyond all doubt by a series of tests using exacting scientific methods that a grasshopper with all its legs removed can no longer hear!

THE IMPACT OF FEDERAL FUNDS AND ESTABLISHMENT OF PRIORITIES FOR RESEARCH IN VOCATIONAL AND TECHNICAL EDUCATION

By:

Dr. Glenn Boerrigter
Chief of Research Branch
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I thinks it's fair, and I ought to do this after that kind of an introduction, to tell at least one little experience and maybe we'll bring this down to the proportion that it ought to be brought down to.

A number of years ago, when we were going through one of the moves that the federal government seems to do with employees, and I'd like to use this terminology and you'll see why in a little bit, there were a couple of big, dumb movers that were moving our furniture from one office to another. During the process, some of the secretaries, and probably others, were saying, "Dr. Boerrigter where does this go, Dr. Boerrigter that." Finally after we were situated in the office very obviously this curiosity caught up with one of the movers and he just had to check on this and so he walked into my office and he said, "Are you really a doctor?", and I said, "Yes." So he said, "Well, are you the kind that does some good or are you just the talking kind?" Well, needless to say, I guess that put it in perspective.

I might indicate I am happy to be here for several reasons. One, I have at least seen several people, though I don't know that I've meet them again this evening, former colleagues and persons that I've known. Also, it's good, fairly obviously, to get to know others of you. But I think even more importantly than that, I'm delighted that you have a research conference going in this part of the country and one that is so near Washington. There are a number of research groups and vocational groups but I think this is the only one, at least in this part of the nation, so I really do commend you for that and I might add that is one of the reasons I chose to come to speak to you this evening.

Along the lines of humor and it sounds like that you have had numerous

other jokes before, I might tell you that I'm not a good joke teller so I'll not try, at least, to tell very many of them; probably one and then I will give more of a technical speech. That's maybe not what you ought to have after a delicious dinner, but that's what you're in for; the title takes us in that particular direction anyway.

The only particular research joke that came to my mind as we were sitting here, and it's not a very good one and is certainly an old one, there may be some that have not heard it. It concerns a person who was doing a little research on drinking and he decided he was going to try different acholic beverages. In this particular instance, he was always going to use 7-Up as the constant in the beverages. So he went out and had scotch and 7-Up one evening and ended up with a hangover. Another evening, he had bourbon and the 7-Up and ended up with a hangover, and proceeded to go through the various kinds of alcholic beverages. So, fairly obviously, the conclusion has to be that it's that "dadblamed" 7-Up that's causing it because it's the constant in each instance. It's not a very good joke so we'll go on from there.

The thrust of the presentation as was indicated, was to talk about the establishment of research priorities and the impact of R & D. In one sense, I'm going to try to get at this in a little broader perspective than you might have envisioned. But I think some of the organizational factors, and what have you, that impact on those topics do affect it and, therefore, I'm going to hit on three or four other areas including: how we administer R & D at the federal level; I'd like to talk a little bit about R & D systems, and then also a few minutes about some of the proposed legislation. When I get through the proposed legislation which is the latter end of the presentation, I'll probably leave it. It ought to raise some questions and perhaps those can be explored tomorrow should you want to. But you'll see some, I think, rather dramatic implications of the proposed legislation.

In terms of bringing you up-to-date, and there may be some that do not know what the existing federal legislation or programs are all about, in essence we have in the Division of Research and Demonstration six different programs. Two of those are at the state level and then we distinctly administer four at the federal level. However, one of those is a training program and I'll characterize it more in just a few minutes.

Let me hit first the Part C program. Under Part C, we do have $18,000,000 and have had that for the last number of years; it's been running level. Half of this goes directly to the states on a formula basis and the other half is administered at the federal level. We refer to it often as the Commissioner's Funds; the Commissioner's Funds in this instance are Section 131A. To give you a few features of the Commissioner's Funds, they are characterized by state allotments and this is very unique in federal R & D. But in vocational education under Part C, we start out at least with the premise of having state allotments; in other words, there is a formula basis and Part C goes along with the same formula as you have under Part B. So whatever the proportional share that a state would get out of Part B funds that is the kind of proportional share you are going to get from Part C. When I say to the state, and I ought to make the distinction because this gets confusing and does cause us problems, when we talk about state allotments with the Commissioner's Funds we are talking about the geographical entity of the state versus the funds that go on a forumal basis to the state that go to the political entity. So the funds that we administer go to the geographical entities.

Everyone, except individuals, are eligible for consideration of receiving awards under the Commissioner's share; in other words, profit-making groups, nonprofit-making groups, colleges, universities, state departments, LEA's, everyone except individuals are eligible.

In terms of Part C functionally, what kinds of things we can do, Part C is a very broad piece of legislation. Functionally, though the title of it is "Research and Training," we can support research; we can support decision-oriented studies; we can support demonstrations; we can even support dissemination; so, research is somewhat of a misnomer.

Another kind of categorization that is almost a misnomer talks about research and training. The training authority under Part C is very limited. The only kind of training that we can support or are allowed to support would be training with regard to research results or the results of exemplary demonstrations and successful practices. The training function is very limited in nature.

Another feature of the Part C program is that applications from local educational agencies do have to be approved by a state board. In other words, if a state board of vocational education does not approve them, even though we might like to fund them, we could not fund them. In some instances, community colleges are considered to be LEA's. In Virginia, community colleges are not considered to be LEA's because you have a different state board structure. But in some states, that's not true. Community colleges come directly under vocational education and therefore their applications would have to be approved before we could consider funding them.

Another feature of our Part C program, and this is strictly administrative and nothing to do with the law, we have chosen to put a maximum duration of 18 months on our projects. We often end up giving amendments to extend the duration, but anyway, we start out with that kind of premise. One of the reasons we start out with that kind of a premise is the fact that under Part D which has, and I'll talk more about it, projects that normally run three years in duration. But with level funding if you run a project three years in duration you obviously are not going to have new competitions. We've wanted to

have at least one of our programs available for competition every year. Also, in the federal government if you full fund we have to get a waiver to do so; but you can get this for 18 months, and if you full fund projects then you can have a new waiver each year. So, we've chosen to go that route. Putting 18 months limitations on projects obviously has some implications in terms of types of R & D and so forth. We understand that, yet, it seems to be a better strategy for us to follow.

Another kind of thing that we obviously do in research programs is that we announce our priorities in the Federal Register. One of the things if you don't understand you need to understand is that federal administration of R & D is a competitive process. In order to try and keep that competitive process open so that people can compete for funds, have an opportunity for funds, and have, I might say, an equal opportunity for funds, every year we put an announcement in the Federal Register. This announcement, I might add, is for a grant competition. We also put a couple of announcements in the Commerce Business Daily, but those are for contract competitions. A little later in the presentation I'm going to give you a few distinctions between grants and contracts because it's fairly important to know and it certainly is going to impinge on what the new legislation says.

We also, in the research program under Part C, have what we call "skimming authority," meaning that if we want to skim dollars away from the state allotments or from the states on an equitable basis we can do so. The fact of the matter is we could skim it all away and not be violating the legislation. We've never chosen to do that, we don't think that is the intent of Congress. In fact, a legal opinion on the matter indicated that we may do so and we won't go to jail, but they wouldn't recommend that we do it and we agree. We should not do it and therefore don't. But we do skim some dollars away. Our announcements in the Federal Register for the past three years have been

running at about seven and a half million versus nine million that we have. I could talk about the kinds of projects that we skim away but it would probably suffice to say at this moment that we do some RFP's; we have a few sole sources, and that means that we have gone directly to someone and asked them to do something or we could have received what you call an unsolicited proposal. Some of you in this room, I know, have been submitting proposals to us and I suspect you might have been saying, "Well, gee, I was submitting an unsolicited proposal." No you weren't technically. Technically, you were submitting it to one of our announcements and therefore it was a solicitation on our part. That's a little bit of technical jargon but, anyway, we do have some sole sources and then we also do a little work, because there is pressure to do so, to go to the small business administration. Last year we had two and this year we will have a couple also. There is competition at the small business administration but it's a very limited kind of competition.

Another kind of thing we do with our Part C research is that we support the AIM and ARM Clearinghouse out of the Commissioner's Funds.

The remaining funds, of course, may be used by the state at their discretion. In some cases, it is used right in the department and in some cases they have their own competitions.

That is one kind of program, the research end of it. Let's go on to the demonstration program, Part D. Under the Part D program it has a very limited kind of authority. It is literally limited to the conduct of demonstrations. They have, for example, no skimming authority, and so Part D has awarded no contracts during the last few years. That particular program is a $16,000,000 program, half going directly to the states and half being administered by the Commissioner.

There is quite a different feature built into that program, it is part of the law, and it indicates in this case that state boards have disapproval

authority over applications. There is quite a difference; it wouldn't sound like it at first blush between approval authority or disapproval authority, but depending upon how states want to react to this one it can come out quite differently. Some states, maybe not too many, but some choose to disapprove all applications except the one that the state would like to have funded. When that sort of thing happens, fairly obviously, we fund the one or ones that are left that the state did not disapprove. So it makes quite a difference because that's disapproval authority on all applications versus Part C, just for LEA's, where it's only approval authority; so, if they approve it, it doesn't say, jumping back, that we would approve it.

The Part D, obviously, also publish their announcements in the Federal Register. They do have a competition every year but, and the big but is that normally projects are funded for three years and so in a given state where you have projects awarded, they will run for three years and then you'll have another competition. This particular year is a major competition under Part D. I think there are about 42 states that are eligible for funds and their fund deadline date this year under Part D, I believe, is about June 18. They went through some planning grant awards and so forth. You might even, and again it's a little technical kind of thing, say, "Well, how do they get their funds awarded this fiscal year if they only start the competition June 18?" Part D happens to have no year funds or they have two year funds, so they don't have to be obligated in the year they're appropriated by Congress.

A couple of other features about Part D is that it, I guess I could say that on C, that it too extends all the way from elementary level through the post-secondary level. Also Part D, in the legislation, has built into it that you have to have cooperation with the private schools. You don't find that one in Part C.

Another sort of feature of Part D, incidentally some I'm certain could

quibble with me and very strongly, but I guess I would say the first definition at least of career education was Part D. If you look at the legislation and what it says you ought to be doing under Part D, it literally, you can get better definitions but it was the definition, and I think out of the Part D program really eminated career education in the country. Jumping back a little bit, we did support career education under Part C in 1973 and 1974 but the latter three years now we have not gone that route. We've stuck more closely with vocational education, but we continue, and I make some of these distinctions because we continue to get some flap about "Why are you doing almost career education. Let's keep your vocational education monies closer to vocational education," and all I can say is under Part D you don't have authority to do that. You have to do fairly well what the legislation spells out for you, and it is, at least, work experience-oriented so we move in that direction.

Under the Part I piece of legislation which pertains to curriculum development for the last three years, has been running at the one million dollar level. It does have an authorization of $10,000,000. The highest it ever got was up to, I guess, four million. We did get one year, about a year or so late after a suit, another million. Congress had appropriated five million and it was held in escrow and what have you. So about a year or so later we picked that up, but it's been running at one million.

Part I is quite different from either C or D. There are not two halves to it to start with. It is only a Commissioner's pot of money, as I like to refer to it and it does not have state allotments built in. It truly is a nationally-oriented kind of money.

Under the Part I program for the last two years they've really been doing two kinds of things: under the grant mode they've been supporting, I believe, six curriculum coordinating centers and at a fairly low level of $40,000 to $50,000 each for a total of about $250,00. The remaining money,

about $750,000 has been used for RFP's. Last year they supported, in essence, three major projects and went under the contract route.

We have one other program that the Division administers but it is not an R & D program. We administer Part J of the 1974 Amendments which is bilingual vocational training. We have 2.8 million in it for the last couple of years and it has a couple of features built in that again a number of people really do not understand. One feature is that it is for out-of-school youth or adults. It's just built in the legislation so you can't talk about bilingual vocational education for people in school, you're talking about special kinds of training for persons out of school.

In terms of eligibility, I guess I'll not push that one too far, my knowledge might not even be technically correct on it, but everyone is not eligible. Nonprofit groups, for example, that were not set up to do bilingual vocational training by definition are not eligible. It is kind of interesting, but it is built into the law. There are a few other little quirks of that time on that one.

Let me go on and at least move into one of the areas that they asked me to discuss in this presentation. What about establishing priorities? I think it is probably fair to say that there is concern about the lack of input into priorities. We certainly pick that kind of feeling up and I suspect that is one of the reasons for even asking the addressing of this topic.

There is some concern about the topics that are selected. There is some concern about whether these topics should be national priorities or whether they ought to be state priorities or whether they ought to be local priorities. There is still even another concern about, this may be the biggest concern, the changing priorities. They tend to change somewhat from year to year; and so there is that kind of concern.

Let me indicate at least, and it does not say that I am satisfied or I

think anyone might be satisfied with it, what we did or are doing for FY 1977 in terms of setting priorities is fairly indicative of what we've done the last several years but it is a little bit more extensive for FY 1977, the next fiscal year. In government jargon, that year incidentally starts October 1 not June 30. Congress has deemed that the new fiscal year will start later so we have a transition quarter between June 30 and October 1.

Anyway, in terms of planning this past year the kinds of things that we did go through, for example, we started out by looking at many of the publications, i.e., the National Advisory Council, the Junior College Association, AVA, State College Association, State Directors, etc. As well as looking a publications or research studies, we also tried to look at other kinds of administration concerns, what sorts of things the presidents have said, the HEW secretary and commissioner and on down the line.

We also looked at, "Are there any new things coming out of the judicial end?", which might affect our priority areas as well as congressional concerns. So we try to put all this kind of information together and did in fact, maybe bunched it somewhat, but came up with something like sixty some priorities, very distinct areas. Having moved from that, we went through what I will characterize as having the BOAE, the Bureau of Occupational Adult Education, leadership look at these kinds of priorities and cut them down. In fact, we cut them down to twenty-one; that is everything from the deputy commissioner, the associate commissioners, the division directors and the branch chiefs and what have you across the deputyship.

At that point in time, the twenty-one were put in on the questionnaire, or at least on a document and instrument, and we had a substantial number of groups rank them. There is a forced ranking; in other words, you must rank all twenty-one from 1 to 21. I make the point going all the way through, and I may not hit all of the people that in fact we even got input from, but starting with the

Research Committee of the National Advisory Council for Vocational Education we took this to the Research Committee of the State Directors of Vocational Education. We had a special ad hoc committee, vocational education R & D people, I think ten to twelve people, that were brought to Washington to review them, discuss them and then rank them. We took them to our curriculum coordinating center directors. We took them to the Board of the American Vocational Association; to the American Association of Community and Junior Colleges; the Association of State Colleges and Universities. We took them to the regional office people, the ten HEW regional officers and to the Adult and Occupational Education people. Within the Bureau of Occuaptional and Adult Education they went to the Division of Vocational Technical Education, everyone rated them; we went to the Division of Adult Education; we went to the Division of Occupational Planning. What I am trying to say is if you go through that kind of a group at least you come up and I don't know that I even have the numbers, with several hundred people at least that have input in terms of the ranking of them.

At the end of that process we took this kind of information back to our deputy commissioner for Occupational and Adult Education. I indicated we had twenty-one and in a good bureaucratic fashion, I guess we all agreed what we would really do, more or less, is go along with the top half of those twenty-one and weave the bottom half into the top half. There is a reason for doing this however; when we went through this kind of process, the people we talked to, fairly obviously, are institutionally-oriented people as most of you are and the priorities came out fairly institutionally-oriented. The priorities that were more oriented in terms of people tended to come down to the bottom. To give one example, we have had priorities in the past such as improvement of guidance, improvement of state administration or local administration, or what have you--an institutional kind of thing. That sort of thing

emerged back at the top again and the people-oriented things tended to be at the bottom; so we're moving in the direction of trying to weave those things together.

But I might also indicate on that process, because it is sort of an interesting one, some of you probably know Duane Nielson, in Part F, and he did somewhat of the same kind of thing. He got input from about 400 people that were more oriented at the local level and yet the priorities came out about the same; which gave us at least some comfort in that particular direction.

You might ask, "What are the priorities?" and the best hint I can give you is they are fairly constant in terms of what we have had the past few years. I indicated before that this is a competitive kind of system and, therefore, until we announce it in the Federal Register we really cannot talk about it. Our position, we tried last year and lost the battle, we wanted to put out a pre-announcement of the priorities in the Federal Register. We are going to try it again this year. It means if we can get even a brief statement like, if that is what it would happen to be, improvement of state administration, we could put it in the Federal Register and then we could have dialogue on it. But because it is a competitive situation, until we can get it there, you cannot have dialogue. Why the Federal Register? The assumption is that everybody daily reads the Federal Register. I am certain all of you do! Anyway, it is public knowledge presumably; it has been published and can get out.

I might add on that particular one, from my perspective and I don't know what light this sheds on it, in one sense I have come over the years of time at least to say I don't really care much any more which priorities we work on. They are all important; almost everything needs to be worked on and improved. Personally, it doesn't make too much difference to me. I don't know what

comfort that might give to you but I've just come to that kind of feeling. I do have a feeling, however, that the priorities ought to be longer in duration. This is what we are pushing to try and make them at least five year priorities. I would like to have priorities that would extend for the duration of legislation. This would seem to make some sense if we can get them established that way and hold them because then people do know what they are and gives much more time for planning.

I would like to say a few comments about a national R & D system. You might say, "Well, what do you mean by a national R & D system?" What I'm trying to say that we need in vocational education, as well as in other parts of education, is a kind of systemized, institutionalized approach, all the way from securing basic knowledge or decision-oriented information to all the way through demonstrations, disseminations, organizations and kinds of mechanisms for getting this done. It is extremely critical I think because when you run things on an ad hoc basis, you have a project here and you have a project there; that is fine. But unless you have some mechanism for moving that knowledge out or those products out, they tend not to get disseminated and diffused as well as, at least, I think they ought to be. Let me add that, and you ought to be , at least proud in vocational education that you have or come closer to having this kind of a system in place than what you have in any other part of the educational world. If you stop and think about it, at least there are components that can be welded together in that kind of a mechanism. For example, you have the RCU's as an organization; they may be doing various kinds of things, but you have that organization out there. We do have curriculum coordinating centers; you do have national R & D centers that get some support from us and get some from a variety of other places. You do have some limited, and I say it in that perspective, some limited leadership from Washington. So you have another kind of component in there. You do have state people concerned with

Part D and that may come out of RCU's or other places; there are other special people, but you have state people concerned with Part C. You also have, for example, the national conferences and regional conferences RCU's and now, at least, we have a regional conference, and hopefully an annual one, in this part of the country. All I'm trying to say is you are starting to get some mechanisms. What we don't have, we don't have as good a system as we ought to have in terms of establishing priorities. We don't have as good a system as we ought to have looking at emerging areas; there truly ought to be a system there--continuing function that looks at "What are the emerging areas in vocational and technical education." We don't have nearly as much as we ought to have in what I call, you can use various terms but let's say either dissemination, diffusion, installation end of it. Some of it happens but we don't have as strong a system as we ought to have in that area. So there are other kinds of components that ought to be dealt in and I wish that we could deal them in.

Let's look then at another topic at least which you asked me to address, what's the impact of the federal R & D funds? Speaking at least with one of the gentlemen at this conference before the banquet started this evening it was indicated that over the past decade we have put about 250 million into vocational education R & D and that is a fairly accurate figure. Therefore, you can ask the question, where is the impact? Let me tell you there is a reason I didn't speak as long about this area, because it is hard to talk about. It is hard to talk about and to indicate the kind of impact to Congress. One of the reasons, you see you can go both ways on this kind of thing, but one of the reasons is that you have a state allotment kind of system built in at two levels. It has got strengths and it has got weaknesses. Probably at any given year out of vocational education R & D, there will be something like 500 separate projects supported. If you put the state part of C and federal part, and the state part of D , it may

even go more than that.

To make a point of this at least, we awarded about two years ago a contract to the National Academy of Science National Research Council, this is a group started by President Lincoln and an independent group that only does evaluations of other government programs. This is what they were set up to do. We awarded this contract and this is one of the sole source ones, to try and look at, a little bit, we didn't say so much the impact because I understood the problem even at the start of it, but to try to do an assessment of vocational education R & D over the past ten years, as well as to look at what it ought to be doing and how it ought to be managed or administered in the coming years. This group has, for example, Rupert Evans, from Illinois, chairman of the group; Bob Taylor is on the group; Gordon Swanson is on the group; Pamela Robey, from Yale; Gloria Cooper, who is now at the Ohio R & D center, and other persons--there is about a dozen. They have been trying to look at this problem to do an assessment and they haven't come up with very good information. Perhaps part of it, and I guess I would say some of it <u>is</u> due to the fact of their methodologies of trying to collect the impact data. But it has been difficult for them to come up , now you can come up with instances, and we know of quite a few even when I say impact, where vocational education R & D in fact has been accepted on a statewide basis--has been adopted on a statewide basis and I could enumerate a number of things of that type; so we have had a fair amount of impact. For example, we have State Education Week in the Office of Education and just this week was Alabama Week and most of the things they were talking about were the products of R & D and what R & D was doing for Alabama. So we do know that it is making a rather substantial impact but trying to really get a handle on it to assess it and so forth and to bring this kind of information to Congress, is most difficult and there tends to be, I think, the last number of years, a distrust of R & D period. I think it is fair to say that. Maybe it's

not a distrust but at least a distrust that we're getting enough impact and results out of it and some of this rolls off on vocational education R & D. All I'm partially saying though or making the point is, and this is the reason I characterized the kind of system that you have in vocational education, it's got both strengths in it and both weaknesses in it. Whether or not we can re-tool that to make it a stronger system I'm not certain.

Let me come back, I said I wanted to characterize the administration of R & D at the federal level. I said a little bit before but I can't over emphasize the laws and regulations that push the federal administration on the imput side of R & D. By the input side, I'm saying, looking at what sort of projects and what you're going to do in terms of administering the funds. We don't do very much in terms of the output side, the dissemination end, because of staffing and because you don't have regulations that push you in that direction. It's probably unfortunate, but it's true.

I indicated I want to characterize the competitive nature and let's take just a moment in terms of grants or contracts because it's often not understood. When we put an announcement in the Federal Register this is going to be for a grant competition, and under a grant competition you might have any number of awards. In other words, our Part C will normally run something like 90 or so awards out of our competition that's put in the Federal Register.

Let me go on just for a moment on grants. The philosophy of a grant, once an award is made, I'm over exaggerating, but it goes to the place of saying, we are giving a gift to the institution to do their thing. Albeit, there are some constraints, they've written a proposal, but the philosophy in terms of how we manage it and administer it is that it's a gift. In other words, you will not see, with rare exception, the federal bureaucrat coming out, if you have a grant, and saying, "You really ought to do this project in a different way." If it were bad enough we might terminate it, we could do that, but we

really have no authority to tell you to do it differently because it moves in the direction of being a gift. On the other hand, when you come back to contract administration, if you think about contracts, you expect somebody to do something. So under a contract administration we announce them in the Commerce Business Daily and normally, there are exceptions, there is going to be one winner out of a contract competition--not many winners, but one winner.

We will have prescribed in the RFP, the scope of work, it will prescribe very specifically what it is that you are to do and to do for the government. I might add that under that kind of administration, and I don't know we'd do it particularly, I think we're a little more sensible than that, but all I'm saying is, if we wanted to do it, when you got half way through a project, and we came out and said, "I'm sorry, we just don't like the way you're doing it, we want you to do it differently," you would do it differently because you're under contract. Now, we might have to come back and pay you some more money if it costs more money to do it differently, you've got that kind of bargaining power, but it's a completely different mode. I'm over characterizing these a little bit but I think it's worth your getting a feel for it.

It may be of interest to you, we have this sort of thing when we talk about the application review process and I'm not certain persons always understand that, so let me push that one just for a moment. In a division we literally follow this: we normally have eight panel members; we have a chairperson; we have an executive secretary--the executive secretary will be a project officer in one of our shops. The chairperson is going to be a person from outside our Division normally. Neither of these persons are going to be voting members. Then we have six persons who are going to be voting members, three of whom will be federal and three of whom will be nonfederal. Normally, these persons are going to review the applications; we pay them to review them and hopefully they spend about two hours reviewing each application prior to coming

to Washington for a panel meeting. We slice these people up in several ways: there is going to be a least two females on a panel and at least two males; there is at least going to be one minority person on a panel. We didn't build it into one of our criteria but we have followed it because of an emphasis we're trying to give. There normally at least, is a community college person on our panel. Then in terms of other sorts of people it will hit all the way from having university people to local people to persons from state departments of education and what have you. We try and get a mix.

LIMITATIONS ON DATA COLLECTION UNDER NEW FEDERAL LEGISLATION

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The beginning of permanent pupil record keeping dates back to the 1820's when schools in New England started keeping registers of enrollment and attendance.[1] These registers contained the names of pupil, date of enrollment and withdrawal from school, if promoted, and disciplinary action taken.[2] These records were a measure of accountability in that they reflected the attendance of the child and, therefore, the efficiency of the school.[3]

Two major movements spurred the growth of pupil records. These were (1) the scientific movement [4] and the (2) whole child concept.[5] These are not mutually exclusive and each is dependent on the other to a great extent.

The scientific movement revolved around the concept of more sophisticated measuring devices such as surveys, tests and other measuring devices. Because of these devices the school could better evaluate the development of the child. This movement made it necessary to have more data within the pupil records and made previous records of attendance inadequate.[6]

The "whole child" concept was a major change in educational philosophy; no longer was the primary purpose of the school to teach reading. The philosophies of education had evolved to encompass the social, emotional,

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1 Diana Divoky. "Cumulative Records: Assault on Privacy". Children, Parents and School Records, National Committee for Citizens in Education, Columbia, Maryland, 1974, p. 9.

2 Henry E. Butler, Jr., K. D. Morgan, Floyd A. Vanderpool, Jr., Legal Aspects of Student Records, National Organization on Legal Problems of Education, Topeka, Kansas, p. 1.

3 Divoky, loc. cit.

4 Butler, et. al, op. cit., p. 9

5 Divoky, loc. cit.

6 Butler, et. al, op. cit., p. 1.

mental, and physical variables which relate to the child's education. Therefore, more comprehensive documents were developed which would meet the needs of the child.[7]

From these early beginnings the record keeping process has progressed to where it is today. No longer are pupil records limited to matters of grades, test scores and daily attendance. These school records have evolved into pupil dossiers[8] which often contain information relating to all aspects of pupils lives.

The mushrooming effects of record keeping in public education is vividly illustrated by those records required or recommended for each child in the New York Public School System:

- a buff-colored, cumulative, four page record card that notes personal and social behavior, along with scholastic achievement, and is kept on file for 50 years;
- a blue or green test-data card on which all standardized test results and grade equivalents are kept, also for 50 years;
- a white, four page, chronological reading record;
- a pupil's office card;
- a salmon-colored health record--one side for teachers, the other for the school nurse and doctor;
- a dental-check card;
- an audi-ometer screening test report;

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[7]Divoky, Supra.

[8]Richard S. Vacca, "Student Personnel Records in Public Schools: An Examination of Legal and Professional Problems", Legal Issues in Education, paper presented at School Law Conference, Virginia Polytechnic Institute and State University, Blacksburg, VA, November, 1974, p. 4.

[9]Divoky, Supra. p. 9.

- an articulation card, including teacher's recommendations for tracking in junior high school;
- a teacher's ancedotal file on student behavior;
- an office guidance record, comprised of counselor's evaluation of aptitude, behavior and personality characteristics;
- a Bureau of Child Guidance file that is regarded, though not always treated, as confidential, and includes reports to and from psychologists, psychiatrists, social workers, various public and private agencies, the courts and the police;
- and all disciplinary referral cards.

Access to Information

With the increase in technology, the information gathering process has become very extensive, not only in public education but in all forms of governmental and business operations. The advent of computerized multi-level information systems[10] and other technological advances in electronic equipment have stimulated a public concern with all agencies that collect information. This has also coincided with greater awareness of individual rights as evidenced by numerous court decisions affecting the individual.[11] Because of societal changes the rights of the individual have become more fully recognized by all elements of society.

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[10] John C. Hogan, The Schools, The Courts and The Public Interest, Lexington Books, Lexington, Mass., 1974, p. 144.

[11] Some cases involving the rights of individuals: Tinker v. Des Moines, 93 U.S. 503 (1969), Wisconsin v. Yoder, 406 U.S. 250 (1972), Loving v. Virginia, 388 U.S. (1967), Roe v. Wade, 410 U.S. 43 (1973), Griswold v. Connecticut, 381 U.S. 479 (1965), Eisenstadt v. Baird, 405 U.S. 438 (1972).

The report of the House Special Subcommittee Hearings in 1966 on The Computer and Invasion of Privacy, states:

> . . .'information' can be too treacherous a commodity to be widely disseminated with ineffectual controls. Even a little information improperly used can do irrevocable harm.[12]

These societal fears of information collection relate directly to the privacy rights of the individual. The word privacy is not used in the U.S. Constitution; yet it is one of the most cherished and sensitive rights. Our rights of privacy have come through interpretations of other rights which are enumerated in the U.S. Constitution. In the landmark case of Griswold v. Connecticut[13] the Supreme Court developed the concept of privacy as a right in the Constitution. The Supreme Court has ruled on a number of cases establishing the privacy rights of the individual.

With the growth of record keeping and technology there has been concern about the types of records kept and how they effect the privacy rights of the individual. In an article in Today's Education entitled "School Records Can be an Invasion of Privacy" the author warned "the danger of mistakes of youth (real or alleged) will be indelibly recorded, to haunt the individual for the rest of his life".[14]

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[12]U.S. Congress House, Committee on Government Operations, Subcommittee. The Computer and Invasion of Privacy, Hearing, 89th Congress, 2nd Session, July 26,27 and 28, 1968, p. 121-122.

[13]Griswold v. Connecticut, 381 U.S. 479 (1965).

[14]U.S. Teitelbaum "School Records Can be an Invasion of Privacy" 60 Today's Education, 43 (May, 1971).

Because of recent developments, school authorities have been put in an apparent precarious legal position. The school must balance the school system's need to know and collect information with the right of privacy.[15] Although the individual has a right to privacy the school district has a right to collect information.

Legislatures of each state are required by constitutional provisions to provide a system of schools for the purpose of educating children.[16] The legislature may exercise this power in any manner not expressly prohibited by the state constitution. The legislature with the power and authority to establish an educational system usually delegates certain power to local educational agencies. These local agencies operate the school systems with powers either expressly conferred or implied which are necessary in carrying out the assigned objectives.[17]

Since the power of local educational agencies must be expressly conferred or implied as necessary, the authority for maintaining pupil records is statutory in nature and school districts may collect information as long as they act within the scope of their power. In the case of Merriken v. Cressman[18] the school district was trying to identify potential drug abusers and prepare necessary intervention programs. The program and type of information was ruled to be an invasion of the constitutionally protected rights of privacy. Therefore school districts have the power and authority to collect information but must act within the scope of authority and not violate the constitutional rights of the individual.

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[15]Vacca, p. 4.

[16]Harmony Grove School District v. Camden District No. 35, 302 S.W. 2d 281.

[17]See 52 p. 17, 55 A. 119, 103 S.W. 798, 147 N.W. 172, 103 S.W. 789.

[18]Merriken v. Cressman, 364 F. Supp. 913

As previously mentioned the rights of the student must be balanced against the rights of the school to collect information. Questions have been raised as to the proper balance.

Sociologists, David A. Goslin and Nancy Bordier in a study for the Russell Sage Foundation in 1968 found that the Central Intelligence Agency and Federal Bureau of Investigation along with juvenile courts and health department officers had greater access to student records than did the parents of the students. Another example was in the case of Van Allen v. McCreary[20]. School district officials said that a pupil needed psychological treatment and therapy. The parents, after obtaining the services of a private physician, wanted the school's psychological findings conveyed to the physician; the school refused. The court said:

> Petitioners rights, if any, stem not from his status as taxpayer seeking to review the records of a public corporation, but from his relationship with school authorities as a parent under compulsory education. Thus, the common law rule. . . to the effect that when not detrimental to the public interest, the right to inspect records of a public nature exists- . . .as a matter of law the parent is entitled to inspect the records.

Common law has been building in recent years establishing the rights of parents to examine and inspect student records (see Van Allen v. McCreary, Matter of Thibadeau, Marquesano v. Board of Education of New York)" Access to school records has been especially significant in cases involving exclusion of students with specia] handicaps or placement in special education classes; so several cases have incorporated into due process hearing procedures, access to records of tests and reports upon which the propsed action is based"[21] (See Mills vs.

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[20] Van Allen v. McCreary, 211 N.Y.S. 2d 501.

[21] Sorgen, Michael, et. al. State School and Family, Mathew Bender, New York, 1975 Supplement.

Board of Education of F.P.C., District of Columbia, PARC v. Pennsylvania). Also legislatures have been becoming aware of the problem and beginning to pass appropriate legislation. But even with these actions the progress appears slow to many groups.

Public Law 93-380

Because of this apparently slow progress in protecting the rights of parents and students Congress amended Public Law 93 - 380,[22] The Education Amendment of 1974 with "Educational Rights and Privacy Act" better known as the Buckley Amendment, which went into effect on November 19, 1974. This amendment was modified later with another amendment by Senators Pell and Buckley but remained substantially the same. This amendment provides that any educational institution receiving federal funds will lose those funds unless it complies with this section of the federal law.

It is interesting to note that there were no committee hearings on this amendment. An aid to Senator James Buckley told the College Entrance Examination Board Meeting in Washington on October 28, 1974, one of the reasons that the Senator introduced this amendment was the "domineering, and overbearing" attitude of school administrators toward parents and students. He also stated that it was not taken to the Senate Labor and Welfare Committee before being introduced on the floor of the Senate because "the education committee is not particularly responsive to, or supportive of our ideas". He added the "education committees in Congress represent the education establishment" while the Senator was only interested in protecting students. Appearing on the same program, the Office of Education's Reed Saunders who was heading the "Implementation

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[22]Public Law 93-380. See also "The Buckley Amendment, Freedom of Information Act and Confidentiality of Records" Robert Kyle Attorney General's Conference on School Law, July 22, 1975.

Task Force" for regulations on the Education Amendments said "it wasn't our legislation--we didn't ask for it" adding that the Office of Education has nothing to do with the amendments.[23] Therefore, the Buckley Amendment was passed and school officials must deal with it. I would like to look at some of the important features.

What is an Educational Record and What is Not!

The Buckley Amendment defines education records as those records, files, documents and other materials which contain information directly related to a student and are maintained by the schools or by a person acting for the schools. The act excludes records of instructional, supervisory, and administrative personnel and educational personnel which are in the sole possession of the maker and are not accessible to anyone except a substitute. This would be perhaps the "memory aids" of a guidance counselor or notes of a teacher. The law specifies that law enforcement records which are kept apart from the normal records maintained by the school are not educational records. But these records must be maintained solely for law enforcement purposes and are not made available to persons other than law enforcement officials of the same jurisdiction. Records maintained for employees are not classified as education records. Medical records on a student who is 18 years of age or older which are used for treatment of the person by a physician, psychologists, or other professionals are not education records. These records may be released to the physician who is treating the student or other professionals that the student has granted permission or consent to review the records.

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[23] School Law News, November 13, 1974, Capitol Publications, Inc. Washington, D.C. p. 1.

The term student in the law includes both present and former students. But those records not required by state law or regulation to be kept on former students may be destroyed. When this act was amended, one Congressman said that the most significant aspect of this legislation would be that schools would clean out the files and destroy all of the irrelevant material that exists about students.

Age of Majority

The law provides that after a child has reached 18 years of age or is attending an institution of postsecondary education the permission or consent required of and the rights of the parents are acquired by the student. There is an exception to this rule and that is the institution may release information to the parents if the student is still supported by the parents under provisions of the Internal Revenue Code.

Directory Information

This section provides for directory information which includes a student's name, address, telephone listing, date and place of birth, major field of study, participation in officially recognized activities and sports, weight and height of athletic team members, dates of attendance, degrees and awards received, and the most recent previous educational agency or institution attended. Before the directory information is made public the agency must give public notice as to the categories of information which it wishes to disclose. The agency must allow reasonable time for a parent to inform the school that the information should not be released without prior consent.

Access to Information

The basic aspect of the legislation is that a student or parent shall have access to educational records of the students. This section provides that the institution provide a list of all educational records that are

maintained by the institution. It also provides the right to inspect and review any records kept and to obtain copies of these records at the expense of the student or parent. The parents or student have a right to request an explanation and interpretation of those records, and a right to a hearing if they do not agree with the contents of the records. The right to challenge provides the student or parent with the opportunity to correct any misleading or inaccurate data. The records do not have to be deleted if the information is true, factual and school authorities believe it to be germain to the education of the student. Individuals have asked, does this give the parent a right to contest a grade? The parents could challenge a grade if it were incorrectly recorded but not to contest the grade. The grading is left to the discretion of the educator.

The educational agency must establish the rules and regulations as to the appropriate procedure for allowing access to education records, the only stipulation is that the agency must allow access within 45 days of the request and cannot destroy records after the request has been made and prior to the inspection by the parents.

Release of Records to Third Parties

The general rule is that written consent must be required beofre releasing the education records of students to third parties. The release of educational records can be viewed in three categories. 1) The first is where the education records can be released without parental consent. The records may be released without consent to other school officials within the school district and to officials of other schools in which the student intends to enroll. Also, release may be made to certain federal and state officials in connection with the audit and evaluation of federally supported educational programs, or in connection with the enforcement of federal legal requirements which relate to such programs. Consent is not required to release information to state and

local officials if that information was required by state statute prior to the adoption of this act which was November 19, 1974. This would mean that the 1975 section of the Virginia Code relating to student records Sections 22-275.25 through 22-275.28 would not meet this requirement. 2) The second category is that information may be released to accrediting organizations to carry out their accrediting function or to organizations conducting educational studies for educational agencies for the purpose of developing, validating or administering predictive tests, for administering student aid programs and to improve instruction as long as the information released is not personally identifiable and the information will be destroyed when no longer needed. 3) The third category would be all other groups and individuals who seek access to educational records. All parties in this category would have the consent of the parents or student.

There is one provision which states that information may be released to appropriate authorities when an emergency occurs in order to protect the health and safety of a student or other persons. This would depend on the seriousness of the emergency and the fact that the authorities to whom the information is released would actually be in a position to deal with the emergency.

The Buckley Amendment would appear to conflict with the Virginia Code Sections 22-275.25 through 22-275.28 passed in 1975. The federal law states you may not release the educational information that is personally identifiable to any state or local officials unless required by state statute passed prior to November 19, 1974, except for the previously noted exceptions. The Virginia law says you may release it to law enforcement officers. This would be in conflict with the Buckley Amendment. Whenever there is a conflict between federal and state statutes then the federal law would control. This should be remembered when developing policy relating to educational records.

Confidential Statement or Recommendation

The law states that letters or recommendations which were placed in the records before January 1, 1975 as confidential will remain confidential but all others after that date would be available to the student unless the student signs a waiver of his/her right to access. If such a waiver is signed, then as long as the letters are used for the original purpose then the student could not see them. But if they are used for a purpose other than what was the original intent then the student would have access.

In conclusion, some guidelines that may help in reducing problems associated with student records.

1. Schools have the authority to collect information about pupils. This information must not invade the privacy rights of the child and must be aimed at helping the child educationally.

2. Parents have a right to examine the records of their children. This right is found in case law, Federal law and in more and more states as evidenced by the Student Records section of the Virginia Code.

3. School officials must insure against unauthorized access to student records.

4. Law enforcement officials (federal, state, local) cannot gain access to student information without first securing either consent of parents, or the student (age 18 or over), or a court order, or subpoena.

5. Professional personnel in the school wherein a student is enrolled, do have a right to access of student information--provided they state a legitimate interest in that student.

6. Professional personnel must be certain that all written statements made about students, which are included in the official record, are made in good faith, can be substantiated, and are not examples of "value judgments".

7. All student information which is established as either untrue or irrelevant should be expunged from the record and should be destroyed.

8. Formulate a school system policy and overall administrative procedures which require periodic updating of information contained in student records.[24]

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[24]Vacca, Note 8, p. 9-10.

MINI ADDRESSES ON IMPACT OF RESEARCH AT THE SECONDARY AND POST-SECONDARY LEVELS IN VOCATIONAL EDUCATION

OVERVIEW OF THE IMPACT THAT RESEARCH HAS HAD AT THE SECONDARY LEVEL IN VOCATIONAL EDUCATION

Walter S. Ramey

Meaning of Impact

Project Baseline, from which this report was prepared, describes impact as meaning ". . . the extent to which each school and state education agencies have chosen to maintain and extend . . . the projects."

Based upon this definition and the research compiled by Project Baseline, there is substantial evidence to show that the many federal and state administered research and exemplary programs are producing results. Complete information on federally administered (Part C) research projects was not available, but of the other three categories, state administered (Part C) research and federal and state exemplary projects (Part D) ninety percent of the projects show some impact and two-thirds of the projects show considerable impact. Almost all of these projects emphasized immediate applicability to existing or proposed vocational education programs.

Federally administered research projects, Part C discretionary funds, have had wide impact throughout the United States and in some foreign countries. This impact differs from project to project but those registering the greatest impact are in the areas of curriculum revision and development, management information systems, career selection information and research coordination and dissemination.

Ninety-four percent of all state-administered research (Part C) projects were found to have had some impact. Fifty percent of these have produced results that are being used in the schools where they were implemented, and twenty-nine percent have had widespread implementation in other school divisions.

The impact record of federally administered exemplary projects (Part D) also shows success. Of fifty-four (54) projects supported for three years, forty have had some impact beyond the school where they were implemented, twelve

of these forty have had extensive impact within the state, and four have been adopted by schools in other states.

Exemplary projects (Part D) administered by the states have also fared well. A sampling taken from these projects show that ninety-seven percent have had some impact. The results of these projects are being implemented in ninety-one percent of all the schools where the project was conducted, sixty-two percent are being implemented in some schools, and twenty percent of the projects have reported wide acceptance and adoption by other school divisions.

Project Baseline investigated to determine if any particular kinds of research or demonstration projects produced more impact than another but could not identify a pattern. They did, however, list several projects that have had the results of their efforts widely accepted and implemented.

Successful state administered projects, though, seemed to have certain characteristics. The most consistent of these characteristics was enthusiasm and commitment on the part of the project director. Another that appeared consistently was support for the project by the local school administration.

Projects that were directed toward the establishment of state policy and those conducted by or for the state department of vocational education produced the greatest impact. Secondary and post-secondary school projects were more readily implemented by other schools, while strictly research projects were evenly distributed along the scale and formed no pattern.

Federally administered demonstration projects that proved successful also had some common elements. These projects were usually well designed, well accepted, and had a well organized evaluation segment that provided feedback to the teachers and administrators during the term of the project.

Directors of both research and demonstration projects have offered some suggestions to others who wish to get more out of their efforts. These suggestions call for:

1. Thorough planning and ample lead time
2. Considerable emphasis on professional personnel orientation and training related to the project
3. The cooperation and support of the local school division
4. Continuing and/or extended evaluation in the project design

Along with the successes that accompany many of the projects there are also difficulties encountered. Project directors of federally administered exemplary Part D projects report that these difficulties can be identified as:

1. Wide-spread problems of late funding
2. Lack of support from local school administrators and teachers
3. Lack of clearly defined goals and objectives
4. Time constraints imposed
5. Physical constraints in implementation that usually necessitated the change

Evaluation of Vocational Research Nationally

There is no doubt in my mind concerning the importance of research and the impact it has had on vocational education. I have had the opportunity to view the progress of vocational education over a period of twenty-five years and the good fortune of organizing and developing alternative vocational education programs for youth and adults. I believe I have some insight in understanding the roles of the students, the teachers and the administrators. As a vocational teacher educator I am now confronted weekly with many of the problems vocational teachers and administrators are troubled with.

Times and facilities have changed but the teachers still complain about the students' ability to learn and comprehend, their lack of motivation, and the need for a good counseling program. Administrators speak of the volumes of paper work and the numerous reports they must contend with.

Both teachers and administrators speak of these concerns but all seem to

have a positive attitude toward the future. They are all searching for new and better approaches that will help them improve their teaching.

In a recent study to uncover the needs of beginning teachers, Arizona State University's Division of Technology surveyed the state's new industrial education teachers. They found that these teachers needed help in motivating students, in shop safety, locating sources of teaching materials, and in planning course content.

As an outgrowth of the study, mini courses and workshops were developed and taken to the teachers at their convenience. It reminded me somewhat of the AMIDS programs that were developed to improve the MDTA program during the late 60's.

The dissemination of research information must be packaged in a usuable form. Teachers, (T & I) with whom I have worked have a very difficult time in understanding competencies and performance objectives and how these fit together in the development of a curriculum. However, when they gain an understanding they are pleased. Unfortunately though, I fear that as soon as the course is over they will revert back to their usual class or shop routine.

Vocational administrators want their teachers to be effective but time constraints limit their ability to provide a great deal of assistance. As a vocational teacher educator, I often feel inadequate in my attempts to impart knowledge and guilty because I do not have an easier way to provide teachers with the information they need.

Effective learning takes place when students experience success in their efforts to accomplish. Teachers become better teachers when they sense their students are learning. If it is true that our high school students lack motivation, it should indicate that they are receiving little satisfaction from their efforts.

Based upon the statistical research completed by Project Baseline, we know

that vocational education is providing successful learning experiences for over one million vocational students each year. As reported, ninety percent of all vocational students available for work in fiscal year 1974 were employed. More than half of the secondary school students in forty-three states were reported to be taking vocational education in 1973-74.

AVA projects that at an annual growth rate of nine percent, we will have twenty-one million students enrolled in vocational education by 1980.

Over the past three years, 50,000 new vocational teachers have been employed. More will be needed in the future. Many of these teachers will be coming directly from industry as they have in the past. They, too, will be confronted with the teaching of competencies and the attainment of objectives.

We need to develop materials for them that will help them over the initial hurdle and provide a base upon which they can grow and become successful teachers. Some of our research efforts should be directed toward the needs of these new teachers. The results of this research should be concise, practical and applicable, and it should be readily available through the state divisions of vocational education.

Students, teachers, administrators, teacher educators and researchers are all caught in the same net. We are accountable for the work we do, yet we are surrounded by the constraints of time. As a consequence, we often muddle through and hope we come out alright.

Perhaps the greatest thing that will come from the research that is in progress and scheduled for the future, will be the simplification of much that we have learned from our past research efforts.

We need to relearn the art of living for the sake of life itself and not to compound our existence for the sake of accountability. Teaching and learning are enjoyable occupations. We should direct our research to make it more enjoyable for all involved.

A CRITIQUE OF OCCUPATIONAL-TECHNICAL RESEARCH AT COMMUNITY COLLEGES

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In discussing research on occupational-technical education, one has got to use language and provide a context suitable for the audience. Since I am talking to a group which represents a spectrum from secondary school to baccalaureate and university level, a brief history of the community college is in order.

Dual Origins of Community College

Most of you know that the community college has emerged from two ancester institutions: first, the junior college which was oriented toward a liberal arts program; and more recently, the technical institute, with which most of you are familiar. The birth of community colleges in Virginia grows from this same dual ancestry. Our 23 colleges originated from liberal arts branch campuses at places such as Patrick Henry and Eastern Shore; and from technical institutes or area technical centers at Danville, Virginia Western in Roanoke, and New River. At other locations, such as Central Virginia in Lynchburg, and Piedmont Virginia at Charlottesville, the community colleges were original institutions, though their programs reflected the same dual ancestry.

As a result of its parentage, the community college in its brief history has had to deal with a clash of issues resulting from the dichotomy of occupational-technical education and university-parallel education. Some of these include:

- Differences in origins and preparation of faculty
- Education for occupational skills and advancement versus liberalizing and general experiences
- Standards of employment readiness versus ability to do college-level

work

- Differences in the required high school preparation
- Differences in socio-economic background and aspirations of the students
- Open admissions versus selectivity
- And others

To add to the dichotomy just noted, the community college early in its development, both nationally and in Virginia, assumed three additional educational responsibilities: (1) assisting students to develop their learning skills, the developmental function; (2) general education for non-curricular students, the continuing education function; and (3) meeting community or regional development needs, the community education function.

No wonder that the community college has attracted the often pejorative label of being "all things to all people!"

As a result those who are concerned about educational evaluation and accountability at community colleges must deal with an extremely complicated array of variables -- educational programs, student clientele, educational and environmental processes, learning objectives, and learning outcomes. It is either a researchers Garden of Eden or the tar pit of La Brea depending on your perspective or mood of the day.

Recent Growth in Community Colleges

Another basic characteristic of the community college is its explosive rate of growth. Since 1960 the number of community colleges has increased from about 400 to over 1,000 in 1975. During the 1960's enrollments have grown from 600,000 to nearly 2.4 million, and have reached 3.9 million during 1975. Fall enrollments in Virginia community colleges reached 87,000 last fall, and may exceed 100,000 by 1977.

Across the country, about four-tenths of community college students are enrolled in occupational-technical courses. In Virginia, about two-thirds are

enrolled either in formal occupational-technical programs or individual courses. (From here, I may use the abbreviation "O-T" to indicate the term occupational-technical, which for many of you may be similar to the term "career"). The growth in the number and variety of occupational-technical curricula at Virginia community colleges has paralleled growth in enrollments. We currently offer about 100 different curricula which lead to the associate degree, two-year diploma, and one-year certificate.

For those who believe in institutional evaluation and accountability, the need for institutional and educational research is overwhelming, so much so that a concerted national effort over a five-year period would probably result in no more than succinct and valid delineation of questions and issues, rather than in a provision of detailed answers. Indeed, I would hope that much research effort will be devoted essentially to issue delineation.

Need for Research

Despite, or maybe because of, the recent rapid growth and increasing complexity of the community college, there has been a number of catalysts for occupational-technical research at community colleges. Most of these are externally triggered, as noted:

1. Availability of federal funds for research and development, often through Vocational Education sources.
2. Increased state support for operating costs and new facilities.
3. A trend toward accountability by educational institutions and programs.
4. Increasing numbers and complexity of mandatory data reports to federal and state agencies.
5. Increasing complexity of internal management issues, in combination with external accountability demands.

What are the issues or questions which face community college educators who are concerned about O-T education. Some are noted as follows, expressed in

somewhat general terms:

1. What types of students, in socio-economic and demographic terms, enroll in occupational-technical programs?
2. How do they benefit, and how do these benefits vary by type or program and student background?
3. What value is added to O-T education through the use of developmental programs and the admission of marginally-prepared students?
4. What are the benefits to the occasional student who has enrolled for just a brief period or to the full-time student who does not complete a program?
5. How do aspirations and benefits differ for the person who enrolls at the community college directly from high school as compared to the older student who is more mature occupationally and personally?
6. What is the motivation for and optimum response to the growing phenomenon of reverse transfers by people who have completed a bachelors degree or higher and who are attending the community college to gain specific employment or personal skills?
7. Are O-T programs designed to provide the best combination of employment skills and general education?
8. What are the broader benefits to the individual and society from O-T programs? How are these benefits manifested over the life of the student after he or she leaves the community college?
9. What are the implications of institutional and training alternatives represented by vocational schools, proprietary schools, employer in-service training, community colleges, and others?
10. What are the optimum interfaces of educational programming among the community college, high schools, and four-year institutions?
11. We need to develop a conceptual frame-work to allow formulating meaning-

ful research questions relating to the issues just noted (No. 1-10).

12. We need to develop a conceptual framework to allow formulating research questions related to issues commonly labeled student attrition, and develop appropriate concepts of program completion.
13. We need to develop at a reasonable cost information systems which supports an on-going data matrix of student enrollments, educational and training needs, and employment supply and demand.
14. And many others!

Review of O-T Research

In 1965, a nation-wide survey showed that fewer than twenty percent of the community colleges had formally-organized programs of institutional research (Swanson, 1965). A later 1968 national survey found that only twenty-three percent of the community colleges had employed personnel to coordinate their institutional research activity (Roueche and Boggs, 1970, page 47).

A more recent 1973 survey of community college research on occupational-technical education showed some progress from earlier years, but also revealed significant limitations (Williams and Snyder, 1974). Eighty-seven (87) percent of responding institutions reported conducting follow-up studies of former occupational-technical students since 1967. However, the results were usually not organized to respond to specific questions or issues: fewer than half of the reported studies resulted in any type of written report. Only eighty-five research reports were submitted by 520 responding colleges, only half of which represented an organized attempt to explain the numerical findings. Other limitations of the research reviewed included:

- Only one in four of the studies included non-graduates as well as graduates.
- Fewer than one in ten studies included attempts at employer evaluation.
- Only six of eighty-five studies focused on differences between young

inexperienced students and experienced students who were employed full-time during their community college program.

- Only five of eighty-five studies reported were longitudinal investigations of former students.
- Colleges expressed some frustration about availability of experienced consultants and useful written guides for planning research.

Most studies did solicit evaluations by former students of their college experience. Also on the positive side was a measurable goal-relatedness of many of the reported studies.

Despite the paucity of well-conceived O-T research as perceived during the 1973 survey, there is a growing recent trend toward significant and comprehensive follow-up studies of former occupational-technical students. During the past several years, a number of single institutions have conducted such studies, and these in turn have served as models of later state-wide studies in Maryland and Virginia. The Virginia study was conceived as an attempt to get baseline information on an array of questions which were carefully formulated in the study proposal. As a result, we have a number of informational reference points about our former students, including their perceptions of their college experience and employment, and objective information about their post-college employment and related activities.

The Virginia study, however, is reflective of the state of the art, generally. It provided a description of socio-economic and demographic characteristics of our former students, and of their post-college activities. It was relatively global in its comprehension. It did identify some of the more crucial issues and future research priorities. Such studies need also to be followed by investigations that focus on within-group and between-group differences, on possible explanations for these differences, and contribute to specific experimental modifications. More will be said about this study tomorrow by Dr. Edith Carter.

Future Directions

Future O-T research in community colleges will be guided by internal management needs, external accountability demands, and a growing recognition of the benefits from research over a two to ten year period. This combination will provide strong stimulus for additional and more thoughtful research. Descriptive research about students and outcomes will continue. The demand will be greater for concept- or issue-oriented research. And, significantly, we should see more research planned and evaluated by external educators, sometimes selected by funding agencies.

In sum, these emphases should result in more powerful efforts toward program evaluation and development. Over the next ten years, the Research and Development sequence of activity will be a more significant influence with O-T educators at community colleges.

We will also see more visible and substantial budget lines for research at community colleges. Associated with this budget commitment will be firmer expectations for the quality and usefulness of research products. The increased research activity should be more fully integrated with other mainstream activities of the institution, and as a result we will see the development of more thoughtful and comprehensive research proposals which are aimed toward specific questions in relationship to broader educational frameworks and institutional objectives.

The future of O-T research at community colleges in Virginia and nationally looks bright in 1975.

ASSESSING THE IMPACT OF VOCATIONAL-TECHNICAL EDUCATION RESEARCH ON HIGHER EDUCATION

PREPARED BY

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INTRODUCTION

There are many ways to assess the impact of research and developmental projects in the area of vocational and technical education. In terms of dollars expended, we have witnessed a significant investment throughout the past decade. Research activity in all facets of vocational education has been greatly accelerated by the provisions in the Vocational Education Act of 1963. The initial funding for research, development, and exemplary projects was provided in 1965. Since that time over $250 million has been spent. Although it is relatively easy to account for the number of dollars spent on research, it is very difficult to assess the impact of this investment.

IMPACT - A DEFINITION

There seems to be no standard method of defining the term "impact" as it applies to vocational education research activities. Because the meaning of impact has not been standardized, comparison of one project with another can often be very difficult. In some cases impact is measured in terms of the number of people touched by a project. A summary of the March 1974 Report of the United States Office of Education--Curriculum Development Branch, indicates that over three million students became involved in career education curricula which was an outgrowth of federally funded projects. The full impact of this student involvement, of course, is not known.

We also assess impact by simply counting the number of materials prepared and disseminated. Many curriculum guides, handbooks, and audio-visual materials have been developed as a result of funded projects. Higher education institutions have received large sums of money to research and develop these materials.

In recent years four-year colleges and universities have planned and initiated a wide range of conferences, short courses, and seminars for vocational

education teachers and administrators. The number of persons in attendance is usually recorded and this data is sometimes used to assess impact. Frequently the participants complete some type of evaluation instrument and these findings are used as a rough indicator of success. Unfortunately, these programs are not subjected to rigorous evaluation in most cases, thus summary reports contain findings which may or may not accurately reflect the real impact of the program.

The term "impact" is often used to describe the organization of state or national consortium projects. A number of these consortium projects designed to improve curriculum coordination have been initiated in recent years.

In summary, we have tended to utilize descriptive and financial information to assess the impact of many research and developmental projects. The use of valid impact measuring techniques should no doubt be used more often. With so much emphasis on accountability in vocational education, we need to utilize impact assessment techniques which are more sophisticated.

NATURE OF IMPACT

A rather comprehensive report on the impact of funds expended for the purposes outlined in Part C, D, and I of The 1968 Amendments appears in the Project Baseline Supplemental Report.[1] Although this report does not cover the entire period from 1968 to the present, it does feature detailed information for FY 1971, 1972 and 1973. It also describes some trends for the period of time beyond 1973.

Part C: Money appropriated for Part C of the Vocational Education Amendments of 1968 was designated to be spent for research-related activities. With the aid of a detailed classification system, Miller was able to identify the following uses of Part C funds:

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[1]Miller, Robert, LaRue W. Miller. Impact of Vocational Education Research at the Federal and State Levels, Northern Arizona University, Flagstaff, Arizona, October, 1974.

a. The Commissioner's Part C Research and Development money was primarily spent for the development of career education programs. Many of the projects had a guidance and counseling component. A large number of projects included elementary career awareness and junior high exploratory and orientation activities.

b. Over 700 state-administered research and development projects were funded in Fiscal years 1971, 1972 and 1973. During this three year period over fifty-six percent of the money spent was proposed to affect instructional questions, thirty-two percent of the money spent was designed to affect administration questions, and twelve percent was directed at policy questions. The funding pattern was very consistent for each of the three years.

Part D: The development of new ways to create a bridge between school and earning a living for young people is the major thrust of Part D funds. Miller offers us the following information regarding Part D funding practices:

a. The Commissioner's Part D money emphasized cooperative education at the high school level and career education. Only a small number of projects focused on cooperative education at the college level.

b. Most of the states' portion of Part D money (seventy-four percent) went to programs for students who were still in school. About twenty-three percent of the funds were spent for post-secondary vocational education. A very small percentage of the total funds (two percent) was used to fund projects for out-of-school youth.

Part I: The major focus of attention for Part I funds throughout FY 1971, 1972, and 1973 was curriculum improvement. To facilitate improvement in this area the USOE was allowed to contract with three types of agencies: (1) colleges and universities; (2) state boards or other public nonprofit agencies; and (3) public or private agencies, organizations or institutions. Part I money was allocated to these agencies in the following manner:

State Departments and State Boards (22%)
Independent School Districts (1.5%)
Colleges and Universities (34.3%)
Private Concerns (39.6%)

Although Part I funds could be used to support a variety of projects designed to improve vocational-technical curriculum, over eighty percent of the money was used to fund development of curriculum materials.

The impact of funded research and developmental activities on departments

and divisions of vocational education is not easily assessed. However, a few general observations follow:

1. VTE faculty are conducting R & D activities in areas where too little attention has been given in the past. Some examples include the areas of career development theory, problems related to the disadvantaged and handicapped, and student placement.

2. The availability of R & D funds has contributed to staff development, both directly and indirectly. This money has been used to fund many conferences, seminars, and workshops which contribute to the in-service needs of faculty. In addition, the involvement of faculty members in research activities will almost always provide some degree of professional growth and development.

3. The pre-service VTE program has been influenced positively by a number of R & D projects funded in recent years. The research conducted by professor Lucy Crawford at VPI, for example, has without a doubt influenced the undergraduate distributive education program at colleges and universities across the nation.[2]

4. The availability of funds for vocational education research and developmental activities has motivated faculty to deal with problems and issues of real magnitude. Many of the research projects initiated in recent years dealt with problems which are beyond the scope of a dissertation or thesis.

5. We have witnessed more specialization in vocational education today and this trend seems to have been influenced, in part, by funded research activities. Within every department or division there are staff members who possess special expertise in such areas as competency-based curriculum, evaluation methodology, instructional technology, or some related area. The opportunity to engage in funded R & D projects can assist staff in the acquisition of knowledge needed to become a specialist in a particular area.

NEEDED RESEARCH

It is not possible in this short space to identify all of the research and development projects which should be given priority in the field of vocational education. There is certainly no dearth of problems and issues which need careful investigation. The following general recommendations focus on a few areas which seem to escape thorough investigation in our field:

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[2]Crawford, Lucy C. A Competency Pattern Approach to Curriculum Construction in Distributive Teacher Education, Vols. I-IV. Virginia Polytechnic Institute, Blacksburg, Virginia, 1967.

1. We need to carefully assess problems which teachers are having. The classroom teacher is certainly the key professional who has the greatest influence on the learning process. We need to develop relevant forms of in-service education which is keyed to the immediate needs of the classroom teacher.

2. We need to assess the impact of research and developmental activities on vocational education instruction at the local school level. What is happening behind the closed door of the classroom today that is really different than what was happening ten years ago? Are teachers using the results of previous R & D projects?

3. In recent years we have witnessed a proliferation of work experience programs. Some of these vocational programs feature a high degree of structure, i.e., students are closely supervised on the job, employers are involved in the development of training plans for the student, and classroom instruction is related to the student's duties performed on the job. On the other extreme, the student may get his own job and receive little or no supervision from the school. Does the structured program actually produce better results?

4. We continue to assume that large numbers of workers lose their jobs because they cannot get along with fellow workers or supervisory personnel. Is this assumption valid? If workers actually lose their jobs because of poor interpersonal relations, then we may need to re-examine the preparatory curriculum and give more attention to human relations training.

5. In most cases, a vocational teacher is required to have documented work experience before they can earn certification. There is great disparity among the states in terms of this certification requirement. One state may require 500 hours while another requires 4000 hours. Does the amount of experience make a difference? What specific areas of teaching performance does the experience influence the most?

SPECIAL INTEREST GROUPS

PROPOSAL WRITING AND PROJECT PLANNING

J. Robert Warmbrod

The research proposal is best characterized as a systematic plan for making operational the research process--the scientific method. The ideas and procedures to be suggested are designed to make operational the following steps or phases of the research process.

--Selecting and defining the problem to be investigated

--Accumulating existing pertinent knowledge and information related to the problem

--Developing specific objectives for study that specify the data to be collected

--Designing the study; collecting and analyzing data

--Interpreting findings; formulating conclusions; preparing the research report

An outline for a research proposal is indicated on the attached handout--"Outline for a Research Proposal." The references listed on the handout include specific instructions for the various parts of the proposal. The outline is applicable specifically for research proposals. Proposals for developmental projects would follow this general outline; however, the outline suggested by agencies should be followed when submitting proposals for developmental projects. Each section of the proposal will be discussed briefly with emphasis on the major points that should be stressed in each section.

Title

Basically, the title should concisely and accurately describe the major area or areas with which the research is concerned. The researcher should title the research so that the report of the research will be appropriately

listed and filed in the library. The title must clearly indicate (1) the key variables being investigated, (2) the type of relationships being investigated (explanatory relationships or cause-effect relationships), and (3) the target population to which the results may be applicable. Phrases such as "A study of" or "An Analysis of" are not necessary or desirable.

Problem

Frequently it is desirable to introduce the problem by a concise description of the background and setting out of which the problem of the investigation evolves. Properly stated problems should display the following characteristics: (1) variables being investigated are specifically indicated; (2) the relationships being investigated are specified; (3) the problem must be amenable to testing, that is, the variables must be measurable; and (4) value terms--for example, what method of teaching should be used--must not be included.

The educational significance of the problem must be made clear by the investigator. One approach for arguing the significance of the problem is to respond to the following three questions: (1) What new knowledge or new product will be yielded by the research? (2) What groups or individuals can use this new knowledge or product? (3) How can this new knowledge or product be used to develop, revise, or improve educational policies and programs?

Related Research and Theory

The investigator must use existing research and theory in defining the problem to be investigated and in conducting the research. Knowledge generated by the research process will be cumulative only to the extent that it is related to, evolves from, and builds upon existing empirical and theoretical knowledge. Related research cited in the proposal must, first, connect the

proposed investigation with existing theory and empirical knowledge and, second, provide the rationale for the hypotheses to be investigated in the proposed research.

Objectives

Objectives indicate the specific aspects of the major problem that will be investigated. Specific objectives are usually stated as subquestions to be answered or as research hypotheses. The related research and theory provide the basis for the specific objectives. The rationale for research hypotheses is derived from related research and theory. When conducting survey research, objectives usually are subquestions to be answered; for correlational research, objectives are stated as research hypotheses unless there is no basis for hypothesizing the nature and direction of the relationship between variables; in conducting experimental research there will be few exceptions to the rule that objectives be stated as research hypotheses. Hypotheses stated in the proposal should be stated as research (scientific) hypotheses not null (statistical) hypotheses.

Procedures

Population and Sample. This part of the procedure section must deal with the following questions: What is the target population to which the results will be generalized? How will an accurate and current list of the units in the target population be obtained or constructed? How will the subjects be selected? What is the sampling plan? If random sampling is not used, what are the sources of error that need to be explained?

Design. This part of the proposal should indicate whether the proposed research is survey, correlational (or ex post facto), quasi-experimental, or experimental. If the study is ex post facto, quasi-experimental, or

experimental, the specific design should be indicated. This part of the proposal should clearly indicate how threats to interpretation (sources of internal invalidity) will be controlled or minimized.

Data and Instrumentation. The instruments and procedures that will be used to measure the variables in the study should be described. If the investigator will develop instruments, the procedures that will be used to develop and field test the instruments should be indicated. If instruments that have been used in other research are to be used, this part of the proposal should include a description of the instruments selected and information pertaining to validity and reliability.

Analysis. The statistical procedures to be used in processing and analyzing the data should be described. Analysis procedures should be described for each specific objective indicated earlier in the proposal.

Time Schedule

The specific time schedule to be followed in conducting the research can be indicated by a narrative presentation or through the use of time charts or P. E. R. T. charts. References should be consulted if time charts or P. E. R. T. charts are being used to indicate the time schedule for the project.

Personnel

The qualifications of persons who will direct and conduct the project should be described. If persons who will conduct the project are to be recruited, the qualifications used in selecting personnel should be outlined. If consultants are to be used, the consultants selected (and their qualifications) should be indicated or criteria listed that will be used in selecting consultants.

Facilities, Equipment, and Supplies

The availability of facilities, equipment, and supplies needed for the project should be indicated. Provisions for obtaining the necessary facilities, equipment, and supplies should be described.

Budget

Projected costs for the project should be indicated in the format prescribed by the funding agency. Generally, budget formats are similar to the following.

I. Direct Costs
   - A. Personnel (Project staff, consultants, secretarial and clerical)
   - B. Employee benefits
   - C. Travel
   - D. Supplies and materials (office supplies, instructional materials, etc.)
   - E. Communications
   - F. Services (duplication, testing, statistical, etc.)
   - G. Final Report
   - H. Equipment and/or equipment rental

II. Indirect Costs

III. Total Costs

References

References on proposal writing are indicated on the attached handout "Outline for a Research Proposal." For additional information, the following attachments should be consulted:

A Checklist for Planning a Research Study

Winning a Research Bid: Tips on Proposal Writing

Some Guidelines on the "Art of Grantsmanship"

Proposal Writing (by Tom Lozito)

PROPOSAL WRITING

Prepared For

The First Annual Research Conference
In Vocational and Technical Education

by

Tom Lozito

The practical economics aspect, as far as vocational educators are concerned, revolves around the federal government and monies allocated to vocational education. Vocational education programs have had great success in demonstrating to Congress the relevance in providing technical skills to students, so they become viable factors in today's work force. The plain truth is vocational education, as we know it, could not survive without federal funds.

The Vocational Education Act amended in 1968 states:

> It is the purpose of this title to authorize federal grants to states to assist them to maintain, extend, and improve existing programs of vocational education, to develop new programs of vocational education, and to provide part-time employment to youths who need the earnings from such employment to continue their vocational training on a full-time basis.

Vocational education programs are dependent on federal funds in order to maintain, extend and improve. These funds are obtained in most part by grants which detail to what extent the monies will be used and the manner of its use. State allotments are computed on the basis of the average of the appropriate per capita incomes for the three most recent consecutive fiscal years for which satisfactory data is available.

The art of writing grants is called grantsmanship. Successful grantsmanship is neither luck nor just knowing program and funding officers at state or local levels. The most important practice of grantsmanship is the commitment to improve education within the system.

State departments of education have teams of people which disseminate information and provide technical assistance to local educational agencies interested in making application for a new program. These teams are usually served by a grantsman responsible for making most effective use of available federal funds.

Listed below are the services for which the grantsman should take responsibility. It should be noted that this list can be modified and used as a checklist for those interested in writing a proposal.

I. Develop a grantsmanship plan, outline in explicit terms activities, responsibilities and deadlines.

A. Explain the plan to all interested individuals.

B. Share suggestions with your congressman.

II. Study the rules and regulations published in the Federal Register for each program.

A. Research Title 45 Code of Federal Regulations; (Provisions for all federal and state programs).

III. Study guidelines prepared for each program by the U. S. Office of Education or the state educational agency.

A. Share with officials in federal and state agencies ideas that may be accommodated under authorized programs.

B. Exchange information with personnel in other local educational agencies within the state and nation.

C. Visit successful and interesting programs.

IV. Share ideas and concepts with all key personnel; i.e., program directors and program officers.

A. Try to obtain information on the kinds of projects that are relevant to program priorities. There is no need to spend time preparing a proposal the program officer will not recommend to the review panel.

B. Identify staff members primarily concerned with the project.

C. Prepare proposal as a cooperative activity among administrators, specialists, and other interested persons.

1. If there is an ongoing needs assessment, use pertinent data.

2. Prior to writing program strategies, conduct a thorough search of the literature.

3. A comprehensive evaluation plan should be an integral part of each project proposal.

4. Budget details are usually handled after proposal has been written.

V. Follow proposal all the way through funding agency and review panel.

Vocational education, as well as all other education, is reliant on grantsmanship skills and federal funds. The services a grantsman renders is most important to the young people in the local schools.

Department of Health, Education and Welfare

(Regional Offices by States)

Region I

(Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont), John F. Kennedy Federal Bldg., Government Center, Boston, MA 02203, Telephone (617) 223-6831.

Region II

(New York, New Jersey, Puerto Rico, Virgin Islands), 26 Federal Plaza, New York, NY 10017, Telephone (212) 264-4600.

Region III

(Delaware, District of Columbia, Maryland, Pennsylvania, Virginia, West Virginia), P.O. Box 13716, 3535 Market St., Philadelphia, PA 19101, Telephone (215) 597-6492.

Region IV

(Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee), 50 Seventh St., NE, Atlanta, GA 36323, Telephone (404) 526-5817.

Region V

(Illinois, Indiana, Minnesota, Michigan, Ohio, Wisconsin), 300 South Wacher Dr., Chicago, IL 60606, Telephone (312) 353-5160.

Region VI

(Arkansas, Louisiana, New Mexico, Oklahoma, Texas), 1114 Commerce St., Dallas, TX 75202, Telephone (214) 749-3396.

Region VII

(Iowa, Kansas, Missouri, Nebraska), 601 East 12th St., Kansas City, MO 64106, Telephone (816) 374-3436.

Region VIII

(Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming), Federal Office Bldg. 1961 Stout St., Denver, CO 80202, Telephone (303) 837-3373.

Region IX

(Arizona, California, Hawaii, Nevada, Guam, American Samoa, Wake Island, Trust Territories of the Pacific Islands), Federal Office Bldg., 50 Fulton St., San Francisco, CA 94102, Telephone (415) 556-6746.

Region X

(Alaska, Idaho, Oregon, Washington) Arcade Plaza 1321 Second Ave., Seattle, WA 98101, Telephone (206) 442-0420.

REFERENCE MATERIAL AND FUNDING SOURCES

Annual Register of Grant Support, Academic Media. Available for review at Office of Educational Services. Information concerning funding sources from foundations.

Educational Funding News. Published by Educational Funding Research Council, 752 National Press Bldg., N.W. Washington D.C. 20045. James J. Marshall, Executive Director. $176 yearly.

Federal Register. Superintendent of Documents, U.S. Government Printing Office, Washington D.C. 20402, Published daily $45 per year. Also available for review at Office of Educational Service, VPI & SU.

Grant Data Quarterly. Stewart Johnston, Director of Research and Governmental Relations, California State College at LA. Available at Office of Educational Services.

How to Get a Grant: Orientation and Training Manual. For use of the A-102 Grant Application Forms. Humanics Associates, 881 Peachtree St. NE, Atlanta, GA 30304, $8.

Manual of Procedures: Proposal Preparation and Project Handling. Research Division, VPI & SU, 340 Burruss Hall. No charge.

How to Prepare a Research Proposal. Krathwell and others, Syracus Bookstore, 303 University Place, Syracus, NY 13210, $1 per copy, .75 each over ten copies.

Procedures Manual. Office of Educational Services, VPI & SU, Second floor, Derring Hall, no charge.

The Foundation Directory 5th Edition. Foundation Center, NY. Available for review at Office of Educational Services, information concerning funding sources from foundations.

The Grantsmanship Center News. 1015 West Olympic Blvd., L.A., Cal. 90015, $15 yearly.

The Grantsmanship Workplan. The Echman Center, Dr. James L. Costanza, 8399 Topango Blvd., Canoga Park, Cal. 91304.

Instructional Procedures for the Development of Research Proposals in Vocational Education. Administrator Series #2, Research Coordinating Unit, Marshall University, Huntington, WV 25701.

Commerce Business Daily. Superintendent of Documents, U.S. Printing Office, Washington D.C., 20402, $105 yearly.

DESIGNING EVALUATION AND FOLLOW-UP STUDIES IN VOCATIONAL AND TECHNICAL EDUCATION

PRESENTATION SUMMARY

by

David J. Pucel
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This paper is a summary of a presentation given at the First Annual Research Conference in Vocational and Technical Education held at Virginia Polytechnic Institute and State University on April 16 and 17, 1976. The presentation was broken down into two parts. The first dealt with a discussion of evaluation and follow-up efforts from the standpoint of how does one get an evaluation or follow-up effort implemented as well as designed. The second section reviewed some of the technical decisions that need to be made in gathering, summarizing, and presenting information to decision-makers. The first question addressed was, "What is the expectation of the follow-up effort?". Generally, there are two expectations of an evaluation or follow-up effort. The first expectation is to gather information which can be used to describe the status of a program, school system, etc. The gathering of such information is a technical problem, but can be accomplished rather easily. The second expectation, which many people overlook, is the expectation that the information gathered should be aimed at trying to improve the system. The establishment of a climate to allow the information to bring about reasonable change is probably the most difficult aspect of designing and implementing follow-up or evaluation studies. The development of this climate is as much a political process as a technical process. Those who determine the basis upon which the performance of others will be judged have tremendous power over the future actions of those being judged.

Unless people feel that this power will be exercised fairly, they will have a tendency to work against it and not cooperate. This is the major problem of many follow-up or evaluation efforts.

This is why the political process during development cannot be overlooked. The process involves consulting with the people who will make decisions based on the information you gather, as well as those individuals about whom decisions will be made and who you would like to influence to bring about a change. Typically, when designing an evaluation or follow-up system for vocational education, this means consulting with at least two groups: decision-makers and decision implementors. If the system is a local system, this means that the people making decisions in the state department and the people being affected by those decisions in the schools must be consulted. Examples were given of consultation that was undertaken with various groups within the state of Minnesota while developing the Minnesota Vocational Follow-Up System. Because of the multiple groups who wished to have input and who are affected by the decisions, it was necessary to arrive at numerous compromises between the various groups. Although this process is time consuming, it is very important when one wishes to implement such a system. Any group that feels slighted will tend to bring opposition against the system.

After the main questions concerning the philosophical base for the evaluation and the basic types of data to be gathered have been settled through consultation, the need for consultation still exists. One can ask questions which result in the gathering of data in a number of different ways. The ways the questions are phrased can affect the type of information gathered. For example, if you wish to show a vocational program as being less satisfactory, you could ask students to judge the program as follows:

How unsatisfied were you with your program?

Very unsatisfied
Unsatisfied
Satisfied

However, if you wish the program to be shown as more satisfactory, you might ask the question:

How satisfied were you with your program?

Very satisfied
Satisfied
Unsatisfied

Such methods of phrasing questions can bias information against the various groups that will be using the information. Therefore, after the questions have been written they should also be reviewed by people who will use the information.

Examples were also presented of the need for gathering information in objective form such as with a rating scale or check list as contrasted with gathering information with open ended questions, which require people to write paragraphs. The primary rationale for the objective questions was that they allow for less subjective interpretations and they also allow for the summarizing of information over different individuals. Both of these concerns are very important when trying to design a system that will provide a data base that might influence change.

After providing a general context and discussing the implications of the need for consultation, a number of specific questions were addressed that a designer should keep in mind when designing a system. Each question was discussed with examples of why they are important. The questions were:

1. Who are the people who need the information?
2. What decisions do they want to make?
3. What information would the decision-makers like to have available in order for them to make these decisions?

4. Who should be asked to provide the information?

After discussing the general questions, detailed discussions were held of methods that might be useful to optimize follow-up returns from both employers and graduates. The procedures designed for use by the Minnesota Vocational Follow-Up System were discussed. These procedures have repeatedly yielded one-year follow-up returns from 82 percent of graduates and 94 percent of their employers. These procedures are outlined in detail in the publication titled, "The Minnesota Vocational Follow-Up System: Rationale and Methods" by David J. Pucel, February, 1973, Department of Vocational and Technical Education, University of Minnesota. This publication can be obtained through the ERIC Clearinghouse by referring to document #ED079514. Copies of the data gathering instruments were distributed and general follow-up instrument design considerations were discussed. The sample instruments are also included in the previously mentioned publication.

The distribution and use of evaluation and follow-up information were also discussed. Strategies for developing a willingness for people to use the information were discussed. One strategy was to allow decision-makers to develop their own criteria which would be used to judge the success of program. This could be accomplished by first distributing the information without any criteria and asking them to use the information in whatever methods they saw fit. Later, people who were using the information creatively could be asked to share their ideas with the others using the information. After various decision-making groups have had experience using the information they could be assembled to discuss the appropriateness of alternative criteria. The groups could then arrive at compromise criteria which are satisfactory which could be used in the future. This method was used in the development of the Minnesota Vocational Follow-Up System with great success. These discussions allowed the various decision-makers to understand the implications of using certain criteria as a

basis for judging the quality of programs. Also it allowed the people being affected by the decisions to understand the problems of the decision-makers. When the criteria were finally developed, groups could accept the judgments and rationale of other group members. This does not mean that the need for clarifying discussions was totally eliminated, but those clarifying discussions had a more common base than would have been otherwise possible.

In summary, the presentation dealt with:

1. The political considerations in designing and implementing evaluation and follow-up systems;
2. The design of instrumentation and methods of data gathering which optimize follow-up returns; and,
3. Considerations for getting people to agree upon how to use the gathered information.

VIRGINIA VOCATIONAL EDUCATION MANAGEMENT INFORMATION SYSTEM

L. M. Jewell
State Supervisor
Vocational Education Research and Statistical Information

Historical Development

The reporting requirements of USOE and funding patterns of the federal vocational education legislation during the 1960's furnished a major incentive for the development of Management Information Systems (MIS) for vocational education. Such was the case in Virginia when, in 1971 the Division of Vocational Education at the State Department funded a major research effort, known as the Vocational Education Evaluation Project (VEEP). This project was conducted at Virginia Polytechnic Institute and State University (VPI & SU). The primary objective of this project was to develop a Vocational Education Management Information System for Virginia (VEMIS-V). The costs of the project were funded on a 90 percent reimbursement basis by the Division of Vocational Education. These funds were from Part C of the Vocational Education Amendments of 1968. The remaining 10 percent of the costs were funded by the Research Division, VPI & SU.

Organizational Structure

Developmental work on VEMIS-V was a closely coordinated effort between the project staff at VPI & SU and personnel in the State Department of Education (SDE). The project staff members took the lead in developing the components of the system and assisted in field testing them. After the components were field tested, they were implemented by the Division of Vocational Education under the supervision of the Coordinator of Vocational Education Research and Statistical Information (see figure 1). I am now serving in that capacity. The Coordinator works jointly with the Director of Vocational Education and the Director of Educational Research and Statistics, SDE. Administratively, the Coordinator and staff come under the Director of Vocational Education, but are housed with the Division of Educational Research. All data processing is done in the Division of Educational Research

and Statistics, SDE.

Current Capabilities

VEMIS-V, as originally designed, was envisioned to include subsystems to furnish information on:

1. Student enrollment by programs and program information.
2. Follow-up of former students (both secondary and adult) giving their status and attitudes toward vocational programs.
3. Financial resources available and the cost of operating programs.
4. Personnel resources available.
5. Manpower demand and student needs and interests.
6. Facilities and equipment available, present and potential use of these resources.

The data compiled through VEMIS-V was originally used primarily by decision-makers at the state level. However, now much of the information is also used by local school divisions. We are continuing our efforts to provide local school divisions with better planning information. The above list of components is not intended to be exhaustive. Other subsystems will be added as the need arises.

Thus far, the enrollment and follow-up subsystems of VEMIS-V have been fully implemented and have been in operation statewide since the 1972-73 school year. These subsystems make up a student-accounting system which is called the Vocational Education Reporting System (VERS). This system provides for collecting pertinent information on current students, former students, and vocational programs I will discuss the Reporting System more fully later.

In addition, certain phases of the financial system have been developed and implemented. This system is now being used to determine the additional cost reimbursement to local school divisions.

Future Plans

Work is underway toward the development of the subsystem dealing with Personnel Resources. This subsystem will be implemented in the fall of 1976 as a part of a

Professional Personnel Data subsystem for the entire State Department of Education.

Also, plans are being developed which will satisfy the requirements for the subsystem on Manpower Supply and Demand. This is being done in conjunction with the Governor's Manpower Study Council and is being designed to serve the needs of all state agencies, as well as local educational agencies. A task force has been appointed and a study is being made of the manpower supply and demand information systems in several other states. This task force is charged with the responsibility of recommending to the Governor's Manpower Study Council a Supply and Demand Information System for Virginia. A staff member of the Division of Vocational Education serves as a member of the task force.

Some work has been done on planning the Facilities and Equipment subsystem, however, it has not been computerized at this point.

With this brief overview of the Management Information System for Vocational Education in Virginia, I want to further discuss the Student Accounting portion of the total system.

OVERVIEW OF VERS

Objectives

The objectives of VERS (Vocational Education Reporting System), the student accounting portion of VEMIS-V, are as follows:

1. To provide a means for collecting uniform and accurate data about vocational programs and about current and former students of these programs.
2. To streamline the data gathering procedures and reduce the amount of work required by local teachers.
3. To reduce the time and effort required by state supervisory personnel in processing and handling data.
4. To make the enrollment and follow-up data more readily accessible to decision-makers in the format desired.

These objectives have been achieved by designing procedures that could be used by all of the vocational services, by using students, as well as teachers, to supply the data on optical scanning forms, and by processing the data using optical

scanning equipment and a computer. The system was field-tested in 1971-72 for its feasibility and several revisions were made prior to statewide implementation. The field test was conducted in 16 schools involving about 11,000 students, and the program was implemented statewide in 1972. The follow-up component was field-tested in the same 16 schools.

Organization Environment

The data generated by VERS is available to those agencies in the state which have a need for it. Primary users are the Director of Vocational Education and the central office staff, the supervisors of the vocational services, and local school divisions. Data printouts by school divisions are useful to superintendents, local vocational directors and others charged with the responsibility for planning and conducting vocational education programs at the local division level.

Through VERS we obtain much of the information needed for federal reports, state and local planning, and to a certain extent, the evaluation of vocational education programs.

As noted previously, the Vocational Education Research Coordinating Unit is housed in the Division of Educational Research and Statistics, SDE, for convenience, since this is where the data are received, processed, and disseminated. This unit reports to the Director of Vocational Education, SDE, in carrying out the various responsibilities, and has coordinating responsibilities with the Division of Educational Research.

The Division of Vocational Education, SDE, funds all costs of operating VERS except the cost of data processing equipment. The equipment costs are borne by the Division of Educational Research and Statistics, SDE. The total cost of operating the system during the first school year (1972-73) was $73,626 (Table 1).

The estimated cost of developing VERS was about $100,000. This can be broken down into about $70,000 for the VEEP work and $30,000 for the State Coordinator and his staff.

Local VERS Coordinators

Each local school division is requested annually to appoint a local VERS Coordinator. This individual serves as the contact person with the state office on all matters relating to VERS. The local coordinator distributes the forms and Teacher's Guides to the vocational teachers in the school division, conducts in-service training for the teachers, collects the completed forms, and forwards them to the state office.

Changes in VERS Forms

The first enrollment form for secondary students was designed as an individual student enrollment form. This type of optical scanning form was used for three years. Because of the high error rate and the tremendous amount of time involved in processing these forms (approximately 265,000 in 1974-75), we changed from the individual student enrollment form to a class section form for secondary enrollment beginning with the school year 1975-76. This class section form is filled out by the teacher--one form for each class section taught. This change has made the program much more manageable and at the same time greatly reduced the number of reporting errors.

In addition, 1974-75 was the first school year in which the secondary student enrollment form was used as the basis for reimbursing local school divisions for the additional cost of vocational education courses. The change to the class section form made this operation much more satisfactory and reduced the time required by local school personnel in completing the reports, as well as saving considerable time in the state office.

Also, beginning with the 1974-75 school year we changed the forms used for following up both secondary and adult completions from forms which had to be keypunched to optical scanning forms. This has completely eliminated the labor involved in keypunching and has greatly increased the efficiency of this system.

Current Capabilities of VERS

VERS is capable of collecting and handling data on a large number of students. In 1974-75, we collected enrollment data on approximately 265,000 students enrolled in secondary vocational education programs, and better than 127,000 enrolled in adult programs. A follow-up survey was conducted on 33,786 secondary completions and 6,996 adult completions.

VERS consists of four basic steps.

The first step deals with the collection of summary information about secondary students and vocational education programs. Student characteristics and program information are obtained from the teacher, using the optical scanning form, Virginia Vocational Education Class Enrollment Form, (Appendix A). The forms are completed by the teacher on or about September 30. Additional forms are completed by March 1 for students enrolled in second semester approved 18-week courses. An optical scanning device is used in processing the forms and storing the information on a computer tape. A number of reports are prepared from the data gathered in each of the four steps.

The second step deals with the collection of information on students who are completing a secondary vocational education program. This information is used to conduct the follow-up study approximately six months after completing the program. Each student completing the program fills out a Virginia Vocational Education Student Completion Form (Appendix B). This is completed by the student under the supervision of the teacher and the completed forms mailed to the Richmond office by May 15. In addition to the data on this form being used for the follow-up study, it is also used in preparing federal reports.

Step three involves a follow-up of students who completed the program requirements or who terminated their training prior to completing the program but have a marketable skill. A Virginia Vocational Education Follow-Up Form (Appendix C)

is mailed to each student included in the survey in January on the previous years' completions. The follow-up is conducted by the state office and consists of three mailings. The first mailing consists of a letter explaining the need for the follow-up, a follow-up form, and a return envelope. A follow-up reminder card is mailed three weeks following the first mailing to those students who have not returned a completed follow-up form. Three weeks after the mailing of the card, a second questionnaire form, a letter, and a return envelope are mailed to those who have not responded.

Each year we do a 100 percent follow-up on the completions of one or more vocational services and a sample follow-up on the other services. This is designed to give a complete follow-up on each service every three years. The follow-up response this year from secondary completions was 64 percent.

Step Four is an analysis of the follow-up survey. The completed follow-up questionnaires are scanned and the necessary information compiled. The data is analyzed and reports are compiled in the format desired by those who use the information.

Procedures similar to the four steps just reviewed for secondary students are repeated for vocational education adult enrollees. The Vocational Education Adult Enrollment Form (Appendix D) was used last year to get data on approximately 127,000 adults. These forms are mailed to the state supervisor of the respective vocational service at the completion of the course.

Vocational Education Adult Preparatory Student Completion Forms (Appendix E) are used to collect the information needed for follow-up purposes and for federal reporting.

A 100 percent follow-up is conducted each year on completions of adult programs. The response from adult completions was 73 percent (Appendix F).

In order to operate VERS, a Teacher's Guide is prepared annually. This guide contains sample forms, instructions for the teacher, and instructions to give to the students.

Future Plans for VERS

We will continue using the system with revisions as needed. We anticipate some changes will be needed annually. As we attempt to provide local school divisions with better and more timely data for planning purposes and as the system expands, changes will be needed. In addition, the data required for USOE reports changes most every year.

The system has been very successful and will continue to serve a definite need for vocational education planning, reporting, and evaluation.

TABLE 1

Cost Estimate for Operation of VERS*
During 1972-73 School Year

Teachers guides	$ 1000
Purchase of VEEP-1 Forms (375,000)	4550
Salaries and Travel (4 staff and Kelly help)	47,444
Consulting assistance VEEP project staff	2000
Mailing	650
Printing	866
Equipment - office	1078
Supplies	1240
Misc. expenses	1500
Key punch personnel	2591
Computer (testing, editing, tapes, etc.)	9182
Op. Scan 100 (purchase share and maintenance)	1525
	$73,626

*Cost of collecting and processing data for about 230,000 secondary students, 68,000 adults, and following up 1,982 former students.

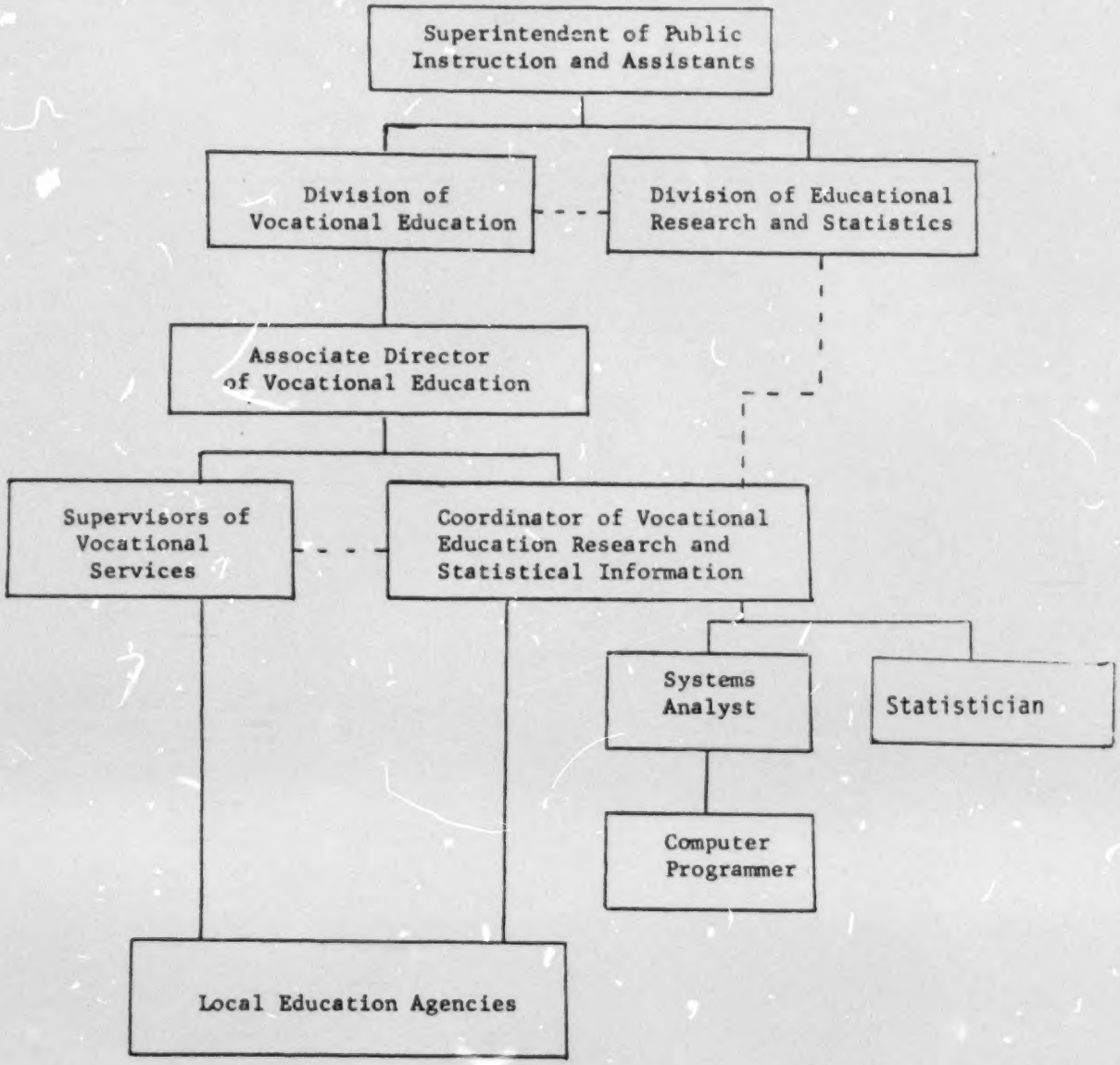
Superintendent of Public Instruction and Assistants
Division of Vocational Education
Division of Educational Research and Statistics
Associate Director of Vocational Education
Supervisors of Vocational Services
Coordinator of Vocational Education Research and Statistical Information
Systems Analyst
Statistician
Computer Programmer
Local Education Agencies

Figure 1. Organizational Chart for VEMIS-V

Developing Management Information Systems in Vocational and Technical Education: Concepts and Problems

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Division of Vocational and Technical Education
Virginia Polytechnic Institute and State University

I have chosen to begin my discussion by first considering a conceptual model for a management system for vocational education. If you ask vocational educators to name the first step in developing a vocational program, most would no doubt say "determine needs". I suggest that you can not define needs until you first establish a mission. Attempting to define needs without first establishing a mission statement is apt to result in trying to meet all the needs of all the people. While this may be a worthy goal, we must be realistic.

Whether we be dealing with the state, a school division or a vocational program, the mission statement establishes our reason for existance. The mission statement may be in terms of people to be served and/or in terms of the things you want to do for those people. In either case, it must be broad and at the same time explicit enough to be clearly understood.

Once you have satisfactorily established the mission for the vocational program (be it Federal, state or local) the next step is to determine the needs of the people to be served. Many times the situation at the moment determines the needs, rather than establishing a system which will provide continuous analysis of the needs as they change over time. A major critism leveled at vocational education is directed toward the seeming lack of ability to identify changing requirements in the world of work. A continuous needs assessment would identify these changes as they occur. Programs for which no need exists or programs which are outmoded can be discontinued.

Once the needs have been identified, the goals should be established. Goals are usually broad statements which respond to the identified needs.

Establishment of quantifiable objectives is the third step in the management system model. Objectives are specific end results which can be met within an identifiable and reasonable time frame. Special attention should be devoted to indicating how the outcomes of the objectives will be measured for they are the basis for later evaluation.

Program analysis, the forth step in the management system, may include a study of the existing programs to see if they meet the established objectives, the design of new programs to meet emerging needs, or the purging of programs which are no longer relevant to today's needs. The latter function of program analysis is not used in education to any great extent. Programs are continually being added but very seldom is a program deleted.

Multi-year budgeting is essential for a successful management system. Program budgeting is the process of relating proposed expenditures to revenue sources.

Step six, program operation, and step seven, program monitoring, for our purposes should be considered together. Actual management and supervision of the programs are the major functions of these steps in the management model.

The final step of the model is evaluation. This is where a breakdown of the system is most apt to occur for people avoid evaluation whenever possible. Questions related to the goals, objectives, program design, allocation of resources, and operation of the program should be asked.

It is essential to have a model to follow in developing a management system; however, there are many problems which stand in the way of satisfactorily implementing the model as I have just briefly described. O'Reilly (1975), in a report from Project Baseline outlined many problems plaguing management systems. I would like to relate a few of those problems.

1. Definition of terms. Terms commonly used in vocational education lack clear definitions. "Reimbursable programs", "post-secondary education", "adult education" and even "vocational education" are examples of such terms.

2. Follow-up of former students. Reliability of follow-up data collected too soon after the students leave school is questionable for accurate data may not be obtained. In addition most localities and many states do not have the capability of collecting sufficient data to provide an accurate picture of former students.

3. Labor market information. A major problem in most vocational education management systems is the lack of up-to-date market information. Vocational education has received criticism for not mailing manpower needs, however, there have been very few specific efforts other than those by vocational educators to determine the occupations for which training programs are justified.

4. Data accuracy. Well-designed automated data collection systems tend to produce more accurate data than hand collection methods. Accurate data is essential to the success of the management system; in other words "garbage in, garbage out". No matter how sophisticated the management system, if the data are not accurate, the plans developed by the system will be worthless.

To conclude, I would like to caution you not to expect that a management system will descend upon you and solve all your problems overnight. Management systems provide information which can possibly alleviate some of the uncertainty in decision-making by directing you to select the choice that has the highest probability of success.

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CRITIQUE AND SELECTION OF DESIGNS FOR INVESTIGATING PROBLEMS IN VOCATIONAL AND TECHNICAL EDUCATION

Curtis R. Finch and Patrick A. O'Reilly[1]

OVERVIEW

While there continues to be a great deal of concern about pervasive problems in vocational and technical education and the ways that these problems may be reduced or eliminated, it is seldom that professionals seek assistance through the medium of research. The reluctance of people to utilize research appears to stem from several areas, namely: a lack of confidence in one's ability to conduct research and difficulty in conceptualizing the ways that research may be applied to vocational and technical education. This presentation focuses specifically on the selection of research designs with emphasis on application to problems in vocational and technical education. The areas that will be dealt with include primary considerations in research, approaches to research, focusing on a problem, historical research, ex post facto research, and experimental research.

PRIMARY CONSIDERATIONS IN RESEARCH

Research may be thought of as being classed in two ways. Basic research is directed toward an increase in knowledge about an area. The primary aim of an investigator is to obtain a greater understanding of the subject under study rather than to make a practical application of it. Applied research is directed toward practical applications of knowledge and is most closely associated with education. When applied research is successful, it results

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in plans, strategies, or direction for development (Worthen and Sanders, 1973).

Several factors may affect the investigation of problems in vocational education. The first is validity which may be simply stated as: does the study do what you want it to do? More specifically, validity may be of two basic types, internal and external. Internal validity represents the minimum without which a study is uninterpretable. External validity has as its concern the generalizability of results. That is, to what populations and settings are variables in the study generalizable? (Campbell and Stanley, 1963). There are, of course, trade-offs between internal and external validity. As internal validity is greatly increased, external validity may tend to decrease. The reason for this is internal validity may be sometimes carried to extremes (e.g., a laboratory experiment dealing with learning which may have little generalizability beyond that laboratory).

Cost is another consideration of the researcher. Lack of dollars may easily affect the amount of internal validity that can be incorporated into a study. Examples of research areas that cost may have an impact on include sample size, travel, purchase of computer time, data gathering procedures, and purchase of document.

A third consideration in the conduct of research is available time. Some say that time is money; and we can be certain that lack of time has a definite affect on the research process. Insufficient time being available to a researcher may reduce the amount of data gathered, the quality of data gathered (e.g., conducting research in a school just prior to Christmas), and the quantity of data gathered (e.g., interlibrary loan of documents).

A final consideration is that of access to data. The researcher may, for a variety of reasons, have difficulty getting into the schools. Likewise,

problems may be encountered gaining access to students, student records, or pertinent documents.

THREE BASIC APPROACHES TO RESEARCH

Educational research may typically be classified into one of three approaches. These include historical research, ex post facto research, and experimental/quasi-experimental research. Each of these approaches is important in its own right and should be considered as the investigator begins to examine a particular problem area. The three may be viewed as forming a rough continuum of education research. For example, we might first consider an examination of the educational context or perspective, follow this with an examination of relationships, and finally examine effects. This would be displayed in the following manner:

HISTORICAL (Context and Perspective) ⟶ EX POST FACTO (Relationships) ⟶ EXPERIMENTAL (Effects)

Although each of these approaches will be detailed in subsequent sections, a brief definition of each should provide some insight into the differences which exist among them. Historical research is concerned with "the critical investigation of events, developments, and experiences of the past, the careful weighing of evidence of the validity of sources of information on the past, and the interpretation of weighed evidence" (Kerlinger, 1973). Ex post facto research focuses on determining the relationships among or effects of some naturally occuring events that are generally outside the control of the researcher. Experimental and quasi-experimental research focus on determining the effects of some events which have been controlled and introduced by the researcher (Campbell and Stanley, 1963). In experimental research, randomization takes place, whereas, in quasi-experimental research

randomization and some control over the setting is given up.

FOCUSING ON A PROBLEM

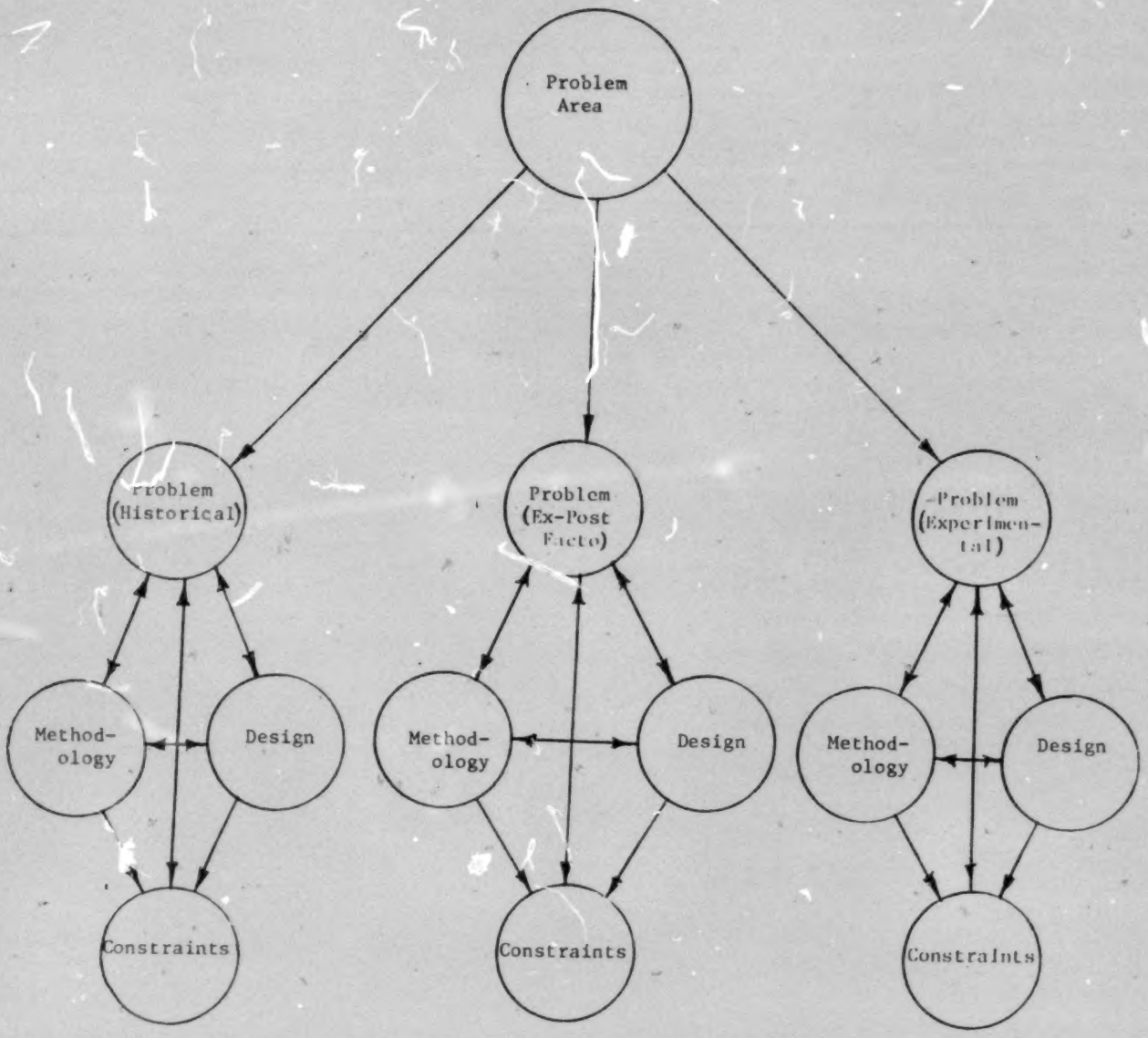
How then does a research design emerge from these three approaches? We must first examine the basic process of selecting and developing a research problem. Based upon a review of the literature, the researcher first selects and delimits the problem area. Next, variables are identified and the problem is stated operationally. Objectives are then developed which typically take the form of hypotheses or questions (Minnesota RCU, 1967).

However, the development of a research problem is not that simple. The type of problem being dealt with must be kept in mind and it must be aligned with an appropriate research approach (i.e. historical, ex post facto, experimental/quasi-experimental). Each approach has its own set of considerations which must be accounted for as the research design evolves. As indicated in Figure 1, selection of a research approach takes into account methodology, design, and constraints. Thus, development of a research problem includes the business of decision-making; that is, deciding which approach has the best alignment with a particular problem. If alignment does not occur, the problem itself may be questionable.

HISTORICAL RESEARCH

Historical research may be better known to some as the historical method or historiography. It differs from other research activity in terms of its dealing with the past, its quite elusive data source, and difficult interpretive task imposed by the nature of the subject matter. Kerlinger (1973) points out that the value of historical research lies in its use. Through this approach, we may come to know and understand past educational accom-

FIGURE 1
RESEARCH DESIGN SELECTION



plishments and trends and, thus, gain a better perspective of present and future directions. Even though historical research in education may recommend actions which deemphasize the sense of historical inquiry, this approach can indeed make a significant contribution to education (Skager and Weinberg, 1971).

Several types of problems may be investigated using the historical method. These include surveys which describe the history of education, a comparative approach of two or more nations, great institutions of education, history of a particular educational problem, or a particular movement in education. These are but a few of the many ways that historical research may be applied to education (Skager and Weinberg, 1971).

Design and methodology are more implicitly associated with historical research. Since far less thought is usually given to statistically analyzing large volumes of data, the historian becomes an analyzer and critic of information. The historian should be aware of several factors associated with quality historical research and writing. These include care in collecting data and authenticating source material, judiciousness in interpreting data, and "application of controlled imagination and literary art in organizing and presenting data (Nash 1964)." Good historical research places a great deal of emphasis on internal and external criticism and historical perspective. Internal criticism focuses on the source or document and its meaning. This sort of criticism asks whether the statements are accurate representations of historical fact. External criticism, on the other hand, deals with the examination of data sources for genuineness or validity. It asks questions such as "did X really write this?" or "was he/she competent and truthful?" Historical perspective speaks to the time lapse between occurance

of an event and study of these events. Each event must be seen through the eyes of a historian rather than merely a spectator.

There are several advantages inherent in the use of historical research. It has the potential to provide a fresh view of education, one which is not limited by narrowly defined variables. The historical method can be a broadly based, ranging approach that deals with the context of education much better than other forms of research. Finally, the historical method can serve as a foundation for more precise, sophisticated forms of research. From a programmatic standpoint, this is perhaps a key advantage of employing historical research to solve problems in vocational and technical education.

EX POST FACTO RESEARCH

Ex post facto research is research in which the investigator has no control over who receives the treatment or how or when the treatment is administered. Furthermore, the investigator has no control over the who, how, and when of measurement. That is, the researcher often will have to be satisfied with data that are readily available or have already been collected. Thus, most data for ex post facto research is gathered in the natural course of events or a "real world setting".

Simple examples of ex post facto research are the surveys run by many advertising firms to determine the effectiveness of a commercial. Companies will conduct surveys to determine whether or not the public saw a certain commercial and if they did, whether or not they purchased the product. The validity of the conclusions drawn from such a study are questionable.

In ex post facto research, the problem usually centers around a question about relationships. An example of such a question is: "What is the relationship between IQ and GPA?" This question could be investigated in several

different ways. The simplest of these would be to collect the IQ scores and GPA's for a number of students and calculate a correlation coefficient. This is an example of a design with almost no control over intervening factors. However, this design can provide information that is useful in designing more rigorous studies.

This investigation would be more usable and interpretable if additional factors were taken into consideration. For example: "Is the relationship between IQ score and GPA different for students in urban, suburban, and rural high schools?" This approach might give some insight into whether or not such things as socioeconomic background and environmental factors are related to GPA. If there is a difference in the relationship between IQ and GPA in the three settings, factors other than IQ are related to GPA. However, causality statements or value judgements are still not in order.

Statistical methodologies can be used to control the effects of intervening factors. The original question could be rephrased as: "What are the factors that best predict GPA?" For the purpose of answering this question, data about socioeconomic background, past achievement and attitudes as well as IQ would be collected. These data could then be used in a regression model which would determine the effect each has on GPA. With this type of approach some judgements about causality are possible.

It should be obvious that it will never be practical, perhaps not even possible, to control all outside influences using an ex post facto approach. A researcher can continue to refine sampling techniques and introduce new variables into the model to the point of absurdity. A major advantage of an ex post facto approach is that studies can be completed with a minimum expenditure of time and money. However, as was pointed out, a major disadvantage

is that severe validity questions are rasied by the lack of control over intervening factors.

EXPERIMENTAL/QUASI - EXPERIMENTAL RESEARCH

Experimental research is that in which the who, when, and how of the treatment is controlled by the researcher. Furthermore, the researcher will control the who, when, and how of measurement. This control is commonly referred to as random assignment of subjects and is used to negate the affects of intervening factors.

The main factor that distinguishes quasi - experimental research from experimental research is that the researcher is unable to control the who, when, and how of the treatment. Therefore, randomization cannot be used.

Experimental Research

The experimental approach is used when the researcher is trying to determine whether, in fact, a particular treatment or event causes a statistically significant change in behavior. An example of a question that might be investigated is: "Do students who are taught the "new" math score higher on math achievement tests than those who receive traditional math instruction?" The most common approach to this problem would be to randomly assign students to classes, administer a math achievement test, use the "new" math and the traditional approach to teach separate classes, give a math achievement test, and compare the groups. A study using this design produces results with good internal validity. That is, because both a treatment and a control group are being used, the researcher can be quite certain that any differences discovered are a result of the treatment.

The major problems that develop from such a design are related to external validity. Whether or not the results of the study can be generalized to all

math students is questionable because of the controls exercised by the investigator. Additionally, there is the possibility of an interaction occuring between the testing program and the treatment.

In order to determine whether a testing - treatment interaction occured, two additional control groups could be used. One of these groups would be given the treatment and the post-test. The other group would not be exposed to the treatment and would only complete the post-test. This four group design would allow the investigator to determine if there was a testing - treatment interaction. In many cases, the complexity of this design makes it impractical.

A simpler approach which would eliminate the testing-treatment interaction is a two group design in which subjects are randomly assigned to treatment and control groups and no pre-test is administered. This design would eliminate the possibility of testing-treatment interaction and be less complicated than the four group design. Such a design would not be useful, however, if the investigator is interested in either the testing-treatment interaction or gain scores (Campbell and Stanley, 1963).

Quasi-Experimental Research

As has been previously explained, the major differences between experimental and quasi-experimental research is that the researcher cannot randomly assign subjects to treatment and control groups.

One quasi-experimental design that is sometimes used is the time series design. The objective of this approach is to identify a normal rate of change prior to the treatment and compare that to the rate of change following the treatment. An example of a question that might be examined using this approach is? "What is the effect of good vision upon the reading habits of students?" To investigate this question using a time series approach, the investigator

would measure reading habits of a group of students at several points in time. The students would then be given a vision test and fitted with corrective glasses. Finally, reading habits after the treatment would be measured and compared to the pre-treatment reading habits. The time-series design does not control for the possibility that some unusual event might have occured in conjunction with the treatment and was responsible for the effect discovered. Furthermore, there is always the possibility of testing-treatment interaction.

In order to control for the effects of unusual events, two groups could be used. Both groups would be measured simutaneously and the changes over time compared. This approach would increase the internal validity of the time-series design, but the possibility of testing-treatment interaction would still make the external validity of this approach questionable.

Although it may not be possible to randomly assign students to treatment and control groups, it may be possible to randomly assign treatment or no treatment to existing groups, such as classes. The researcher could then administer a pre-test, expose one group to the treatment, administer a post-test, and compare the results. However, this design does not control for testing-treatment interaction nor is it always possible to withhold treatment from one group.

If it is not possible to withhold treatment from one group, the investigator may randomly assign one group to complete the pre-treatment test and a second group to complete the post-treatment test. As a bonus, this design has stronger external validity than merely randomly assigning existing groups to either treatment or control by controlling testing-treatment interaction. If it is possible to withhold treatment from some groups this design can be modified to control for almost all intervening factors. This would require the addition of two additional groups. One would be given both the pre-test and post-test but no treatment and the other would be given the post-test only.

The main advantage of an experimental design is that changes found following the treatment can be identified as a result of the treatment. A primary disadvantage of the experimental design is the unnatural setting created by stringent controls makes generalizing the results to the parent population difficult.

The quasi-experimental design has as its key advantage the fact that randomization by subject is not required and results can usually be generalized to the parent population.

A main disadvantage of this design is that large amounts of data must be handled if the researcher is to control the intervening factors effecting internal and external validity.

The main criteria to use when selecting any research design or statistical methodology is, does it answer the question I want answered and is it practical given the constraints of my situation? This is what makes the real difference between a good and a poor study in vocational and technical education.

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MINI PRESENTATIONS OF RECENTLY COMPLETED RESEARCH PROJECTS
AT THE SECONDARY AND POST-SECONDARY LEVELS

OVERVIEW

Project Director - William F. Bias

On Site Director - Jesse Zedd

Career Development Counseling By Video Tape Recording's

Research conducted in New Kent County Virginia - Rural School division approximately 1800 students.

1. What the nature of the problem was that gave impetus to the research.

Virginia Standards of Qualities mandated innovative methods and explorations in developing curriculums. The project was an attempt to determine (1) could 7th graders develop an operational "self image" in establishing tentative career goals by utilizing a multiplicity of experiences and interaction; (2) would the utilization of video tape recording's enhance the counseling techniques in establishing curriculums in career and vocational education.

2. The methodology used population and sample, design instrumentation, and data analysis.

(90) seventh grade pupils were randomally selected. Utilizing experimental design, the experimental group was exposed to the total process, structured, unstructured group and individual counseling, career orientation and video counseling. The second group received counseling and orientation. The third group was the control group.

Analysis of variance was conducted on pretest and post test of the Career Maturity Inventory (CMI) correlation analysis was conducted between the CMI and Tennessee Self Concept Scale (TSCS) numerous significant difference were found in both procedures at .01 and .05 level of confidence.

3. The findings or results of the study.

Maturity levels, operational self image can be enhanced through intensive orientation and exploration in vocational and career education.

The utilization of the CMI and TSCS are effective testing instruments that will aid the counselor in establishing, tentative career goals.

4. Conclusions and recommendations or implications of results for vocational education in particular, and education in general.

Implications for the study include:

(1) The CMI could point out the students that are capable of establishing career goals. The study or testing by CMI also implied the number of students that might have future problems in establishing an operational "self image".

(2) Curriculum considerations should include realistic subject areas in career education and vocational education.

(3) Video counseling is a definite technique that may be employed by counselors.

(4) The (TSCS) will aid the counselor to be aware of probably negative self concepts and the study would imply that these students can be helped in improving self concepts.

(5) Because self concept develops from childhood throughout the life span early testing is necessary to establish tentative career goals.

(6) More research is needed in terms of utilization, in video counseling.

(7) Video counseling will enhance the counseling process both group and individual.

(8) Teachers and students will be able to view themselves, there by improvement in teaching techniques are implied.

A FOLLOW-UP STUDY OF FORMER OCCUPATIONAL-TECHNICAL STUDENTS AT VIRGINIA COMMUNITY COLLEGES

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April 23, 1976

A FOLLOW-UP STUDY OF FORMER OCCUPATIONAL-TECHNICAL STUDENTS AT VIRGINIA COMMUNITY COLLEGES

INTRODUCTION

The Virginia Community College System began operation in 1966. It expanded rapidly in student enrollments, educational programs, staff and facilities. Nine years after the beginning date of operation, the system had grown to 23 community colleges with 32 campuses which enrolled 110,129 different students. A community college was located within commuting distance of every citizen in Virginia.

During the first six years of operation (1966 to 1971), 6,146 students graduated from Virginia Community Colleges. Of these students, 4,783 or 78 percent were graduates of occupational-technical programs. Large numbers of students attended the college but did not complete planned programs of study.

During the 70's larger and larger sums of money will be required for additional educational programs, staff, and facilities for expanding enrollments. Appropriately, the planning for expansion of program operation should be based upon awareness of information about students and potential students, their occupational needs, and also the activities of former students after they leave the community college. Comprehensive and accurate information about former students who were enrolled in occupational-technical programs at Virginia community colleges did not exist before this study was conducted. Some studies of occupational-technical graduates and non-graduates had been conducted at several Virginia community colleges, but the studies were few and it was difficult if not impossible to relate them in any way to the entire system operation.

Follow-up studies are important in establishing public confidence and support among citizens, legislators and executives in government. Hamlin (1967:iii) believes that "Citizen evaluation of public occupational education is probably the most important factor affecting it. On the basis of their evaluations, citizens assign responsibilities for occupational education and provide or withhold funds, personnel, and facilities." Public support is a major focus of accountability. Tyler (1969:125) writes that "Only as we can describe more accurately the results we are obtaining from the curriculum are we in a position to get the most intelligent support for the educational program . . ." Rouche and Boggs (1968:1) refer more directly to financial implications of accountability when they state that "As a consequence of the increased need for funds, efficiency-minded legislators, parents, boards of trustees, and the public are asking whether institutions are getting the maximum value from each dollar expended." O'Connor (1965:52) proclaims that "The existency of junior colleges depends on their ability to convince the people in their communities that they are dynamic, educational institutions capable of serving students well."

Three major purposes were identified for this study: (1) to describe former occupational-technical students at Virginia community colleges, (2) to assess students' postcollege activities and achievements, and (3) to have students evaluate their college experience and current employment. Out of these purposes the following major objectives were defined:

1. To identify selected personal and demographic characteristics of former students in occupational-technical programs.
2. To identify postcollege activities of former students.

3. To study the attitudes of former students toward their community college experience and current employment.

4. To study patterns of student retention and withdrawal.

5. To examine differences among graduates and nongraduates and among the several types of graduates in terms of their characteristics, post-college activities, and personal evaluations of college experience and employment.

METHODOLOGY

The population consisted of all former students, both part-time and full-time, enrolled in a Virginia community college occupational curriculum at any time from fall 1966 through fall 1969. Graduates and nongraduates were included. Students known to have changed from occupational-technical to other curricula were included, as were those who changed to occupational-technical programs from other areas. A total of 11,623 former occupational-technical students--3,422 graduates and 8,201 nongraduates--were identified. They had attended 13 colleges during the selected time frame.

Two instruments were developed for the study. The college data form was used to collect names and other data about former students qualifying for inclusion in the study. The student questionnaire was designed to elicit information from former students about their postcollege activities, current employment, and evaluations of their college experiences. Questionnaire items were developed to provide answers to the specific research questions listed previously in this report. Responses to the questionnaire were entered onto computer tapes by optical scanning in order to reduce errors and expenses associated with keypunching.

Two data collection techniques helped minimize time requirements and costs. Mailings were contracted to a private service bureau which used automated mailing procedures; and second, respondents and "undeliverable" subjects were removed from successive mailing lists through the use of a computer program.

Follow-up studies present special problems of satisfactory return rate on mailed questionnaires. Four mailing contacts helped maximize percentage of completed questionnaires.

The initial mailing consisted of a questionnaire and reply envelope. Six days later, a post card was mailed as a reminder to return the questionnaire and to express thanks if it had already been returned. Six days after the post card mailing, a copy of the original questionnaire, a cover letter, and a reply envelope were sent to nonrespondents. The fourth and final mailing consisting of a follow-up letter was sent to an updated list of nonrespondents eight days after the third mailing and 20 days after the initial mailing. This follow-up letter reminded the nonrespondent that his questionnaire had not been received and urged him or her to complete and return it promptly. The cut-off date for using returned questionnaires was set at seven weeks after the first mailing

Copies of the questionnaire were mailed to 11,623 former students, of which 3,442 were graduates and 8,201 nongraduates. Twelve percent of the questionnaires were undeliverable. From those who were assumed to have received the questionnaire, 61 percent returned usable completed questionnaires--73 percent for graudates and 56 percent for nongraduates--a highly satisfactory rate of return for this type of study.

RESULTS

Highlights of findings from the study will be discussed in three parts. A profile of the occupational-technical student will be described in part one, postcollege activities in part two, and attitudes and perceptions of the occupational-technical student toward their community college experience and postcollege activities in the final section.

A Profile of the Occupational-Technical Student

A large number of different occupational-technical courses are offered by Virginia community colleges. Graduates reported having been enrolled in 99 separate occupational-technical curricula. Slightly more than 80 percent reported having been enrolled in either a business or engineering curriculum.

The occupational-technical student may be described as a Virginia resident, 23 years of age, white, and male. Only 12 percent of the respondents were nonwhite.

The level of formal education obtained by parents of the occupational-technical student was relatively low. Nearly half of the former students' parents had not completed high school. Occupations tended to parallel the levels of education with slightly more than half of the respondents' fathers engaged in blue-collar occupations.

In the area of academic achievement, the grade point averages for graduates was higher than for nongraduates. An important finding from the study indicated that the time required for students to earn awards was longer than the time specified for those awards.

Postcollege Activities

Students in occupational-technical programs have been prepared for full-time employment. Almost three-fourths of the students surveyed were working full-time in jobs related to their community college curricula. Only 12 percent of these students were working outside of the state of Virginia. The salaries of those employed varied considerably by sex, race, and type of graduation credential. Many of those who were working and had not graduated indicated plans for continuing their education in the community college at a later time.

Attitudes of Former Occupational-Technical Students Toward Their Community College Experience and Postcollege Activities

Former students rated the quality of their college preparation superior or good in most areas. They also indicated a satisfaction with their programs of study.

When examining the attitudes of occupational-technical students, it is important to remember that the primary objectives are usually immediate career entry; and, consequently, direct application of their education to a job. During the past two decades, the array of career opportunities in any single field has broadened considerably. If this trend continues students must have the ability and opportunity to examine a wide range of alternatives in career planning.

In rating aspects of their community college experience, students were generally quite positive. Social activities, however, were rated quite low. Since students at community colleges are nonresidential and many of them are part-time, employed, or married, the provision of social activities is somewhat difficult.

Both graduates and nongraduates overwhelmingly endorsed their community college experience. Nine-tenths of both groups indicated that they would recommend the community college to a person planning to enroll in the same program in which they had been enrolled.

Reports Available

Copies of the four reports developed from this study may be obtained from the Division of Research and Planning, Virginia Department of Community Colleges, Post Office Box 1558, Richmond, Virginia 23219.

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ABSTRACT

CHANGE ORIENTATION AND PERCEPTIONS OF EMERGING PROFESSIONAL ROLES HELD BY TEACHERS OF HOME ECONOMICS IN VIRGINIA

A Presentation

First Annual Regional Research Conference for Secondary and Post-Secondary Vocational Education Personnel, Virginia Polytechnic Institute and State University, Blacksburg, Virginia, April 16-17 1976

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ABSTRACT

CHANGE ORIENTATION AND PERCEPTIONS OF EMERGING PROFESSIONAL ROLES HELD BY TEACHERS OF HOME ECONOMICS IN VIRGINIA

Problem

Home Economics is in a state of transition as new and untried professional roles emerge to meet contemporary social issues and crises. It has been stated that: home economists are uncertain of specific goals and aims they currently support; a need exists for home economists to change emphases and attitudes; the directions for these changes need to be clarified and defined; educators possess limited knowledge about processes for implementing change; educators resist change and perceive change as threatening; perceptions held by teachers for their own role have not received adequate attention in research. Ultimately, perceptions held by teachers are a key to the adoption and diffusion of innovations and changes in behavior. Thus, identification and clarification of change orientation and perceptions of emerging roles appear to be fundamental in effecting desired or planned changes in teacher behavior.

Purposes

Addressed to teachers of home economics in the public school systems of Virginia, this study attempted to: (1) establish the status of their change orientation (predisposition to change or innovativeness); (2) ascertain perceptions of emerging professional roles identified in current literature; (3) determine whether or not level or size of institutional program were significant factors in either change orientation or perceptions of emerging professional roles; and (4) determine whether or not a relationship existed between change orientation and perceptions of emerging professional roles.

Methodology

This study followed prescribed techniques consistent with descriptive research. Some efforts to utilize approaches different from those ordinarily taken and oriented toward educational forecasting and futurism included: (1) considering change orien ation and perceptions from a sociological and psychological perspective, viewing the roles of teachers as components of a small social system as those roles interact and are frequently determined by a much larger social and cultural system; (2) focusing upon change as a discipline to be studied as well as a significant multidimensional factor in the social and cultural system; (3) Utilizing a modification of the Delphi technique as a research tool for collecting concensus on opinions about the desirability and probability of emerging professional roles ten years from this date; and (4) giving attention to the changing status of family life and women in society.

A 2x3 factoral design was established to test five hypotheses. The COPER Opinionnaire, a summative rating instrument, consisted of three major parts, adaptations or modifications of previous research efforts in vocational education: (1) COI, Change Orientation Inventory, 21-item version (Russell, 1973); (2) the Future of Home Economics: A Delphi Study (Lee, 1973); (3) the MOPC, Measure of Professional Commitment (Loftis, 1972). A section was included for biographical and additional professional data previously identified as significant in determining innovativeness.

A jury of nine faculty members from Texas A&M University was chosen on the basis of their reputed expertise in: vocational education, educational administration, sociology, research, educational psychology, curriculum development, statistics, and technological change. Teachers from five states (Arkansas, Louisana, South Carolina, Texas, and Virginia) pilot tested the

instrument. The Kuder-Richardson Formula 20 reliability coefficient yielded an overall value of .90.

A letter of endorsement to conduct the study in Virginia was granted by the State Supervisor of Home Economics. Permission from superintendents to extend the invitation to teachers was required and secured. However, by virture of non-respondents and negative responses by some superintendents, 20 teachers were excluded from the random sample. A minimum sample size of 287 was established from the total population of 1012 as reported in the 1973-1974 Directory of Virginia Home Economics Personnel. To ensure a reasonable chance of attaining responses from this size of sample so that generalizations could be made to the population, a total of 350 teachers were randomly selected. This number was reduced to 330 by action of superintendents.

The initial air mail packet to 330 subjects and three follow-up letters produced 289 usable responses, two above the number needed in order to generalize to the population , over an eight-week period of time.

Statistical programs used were those described by Veldman (1967) for analysis in the behavioral sciences: (1) descriptive statistics; (2) analysis of variance; (3) multiple comparisons; and (4) correlation. Fortran routines LISTER, TESTAT, DISTAT, AVSCHEFF, FACTOR, and DSCRIM were utilized. Two cards were key punched and verified for each subject on the UNIVAC 1710 VIP (Verify Interpret Punch) and on the IBM 129 Card Data Recorder in the Bryan High School, Bryan, Texas, Data Processing Department. The data analysis was completed at the Data Processing Center at Texas A&M University, College Station, Texas, on the IBM 360/65 computer. The .05 level of significance was used for accepting or rejecting the hypotheses.

Findings

The following major findings related to the five null hypotheses tested

emerged from the overall analysis of data: (1) no significant differences among teachers existed in change orientation or perceptions of emerging professional roles for level or size of institutional program; and (2) Significant relationships among teachers existed between change orientation and perceptions of emerging professional roles. Although the overall analysis revealed no significant differences, a variable by variable analysis did reveal significant differences at both the .05 and .01 levels of significance for both change orientation and perceptions of emerging professional roles. For the sake of brevity in this report, and inasmuch as findings determine conclusions, these will be discussed in the section on conclusions. The detailed variables may be found in the full report which is attached.

Biographical and professional data significantly related to professional commitment were: (1) number of years in teaching; (2) number of years in the same school; (3) income; and (4) age. Positive relationships were found between professional commitment and the following biographical data: (1) number of professional publications read monthly; and (2) use of workshops, supervisors, and magazines and journals as a source of new ideas used in teaching. Responses to the MOPC revealed that of the teachers of home economics in Virginia: (1) 55 percent do not take an active part in professional organizations; (2) 16 percent do not belong to professional organizations; (3) 12 percent do not feel that they should belong to professional organizations; (4) 25 percent do not involve themselves in community affairs; (5) 18 percent do not engage in at least one service project; (6) 74 percent accept their weaknesses as limitations; (7) 34 percent perceive themselves as being afraid of self-knowledge; yet (8) 97 percent perceived themselves as aware of their own needs.

Additional significant findings related to degrees held, major sources of new ideas used in teaching, and unusual or unique features in their program.

Over 75 percent of the teachers of home economics in Virginia held bachelors degrees only. Masters degrees were held by 20 percent, while eight held certification above a masters degree. One held an associate of arts degree, while no doctoral degrees were held. Major sources of new ideas used in teaching in the order of importance were: (1) magazines and journals, 86 percent; (2) workshops, 68 percent; (3) peers, 58 percent; (4) college courses, 52 percent; and (5) supervisors, 42 percent. Only 16 percent reported the use of ideas other than those listed above; 25 ideas were presented. Of the 284 teachers, 200 or 70 percent, perceived themselves as having no unusual or unique features, while 84, or 30 percent had at least one new feature.

Conclusions

The following conclusions derived from the findings related to the research hypotheses appear appropriate:

1. Since teachers of home economics in Virginia exhibited no significant differences in overall analysis of change orientation or perceptions of emerging professional roles with respect to level or size of institutional program, it was concluded that hypotheses 1, 2, 3, and 4 could not be rejected.
2. Since significant relationships existed between change orientation and perceptions of emerging professional roles, hypotheses 5 could be rejected.
3. Significant differences exist in change orientation with regard to level and size of institutional program when specific variables are concerned: individualized instruction using behavioral objectives; differentiated team teaching is asking too much of established teachers; team teaching allows teachers to put more varied ocntent into lesson plans.

4. Since change orientation was negatively related to age, number of years in the same school, and number of years in teaching, it was concluded that: (a) younger teachers tend to be more change oriented than older teachers; (b) the longer one remains in the same school the less change oriented one tends to become; and (c) the longer one teaches the less change oriented one tends to become.
5. Significant positive relationships existed between change orientation and perceptions of emerging professional roles at the .01 level of significance for variables relevant to: (a) updating and maintaining professional competence; (b) taking a leading role in developing and testing theories and strategies in social change for families; (c) preparing for and seeking top management positions in business and industry; (d) becoming increasingly involved in shaping public policies affecting families and consumers; (e) neglecting traditional values and concerns in an attempt to adapt to the new and different; and (f) giving contributions of young home economists increasing recognition.
6. Significant positive relationships existed between change orientation and perceptions of emerging professional roles at the .05 level of significance for variables relevant to: (a) defining major and relevant concepts for subject matter areas; (b) giving more attention to understanding a wider variety of groups of people and living styles; (c) developing communication skills with increasing priority; (d) giving attention to and developing curriculums and internships for professional researchers in home economics; (e) seeing business programs and management workshops available to home economists; (f) entering the political arena; (g) training paraprofessionals; and (h) taking a stand on public issues.

7. Teachers in large schools agree to a greater extent than do teachers in medium sized schools that in the next ten years: (1) increased attention will be given to the development of curriculums and internships for the preparation of professional researchers in home economics; and (2) home economists will be encouraged to aggressively enter the political arena and serve in key legislative and executive branches.
8. Teachers in small schools agree to a greater extent than do teachers in either medium or large schools that increased recognition will be given to contributions of young home economists in the next ten years.
9. Teachers in high schools agree to a greater extent than do teachers in junior high schools that in an attempt to adapt to the new and different, home economists will be neglecting traditional values and concerns in the next ten years.
10. Emerging professional roles are perceived to be more desirable than probable in the next ten years.
11. No significant relationships existed between change orientation and professional commitment.

Implications

On the basis of findings and conclusions from this study and the accepted limits of significance established for accepting or rejecting hypotheses, the following implications are presented. These implications appear to: (1) provide insights useful in the identification and clarification of current issues directed toward home economists; (2) prove beneficial in educational planning, forecasting, and decision making for preservice and inservice programs of home economics on local, state, and national levels; (3) help close gaps in educational research about perceptions of teachers; (4) facilitate positive

directions for the implementation of changes and innovations in the home economics domain in particular, and to education in general.

1. Should programs of planned change with respect to acceptance of emerging professional roles become necessary for teachers of home economics, individualized assistance provided on the local rather than on a statewide level might prove to be more beneficial and efficient for teachers as well as for administrators. Greater responsibility for implementing changes with teachers rests with the local supervisors; however, an investigation appears in order to determine the change orientation and innovativeness as well as the communication skills of local supervisors.
2. The discrepancy between desirability and probability of emerging professional roles calls for an investigation as to why such perceptions are held by teachers.
3. The almost parallel uniformity of response patterns to the desirability and probability of emerging roles implies a homogenity in perceptions which could provide a basis for initiating planned change and diffusion of innovations.
4. Change orientation and professional commitment may be independent of each other. Teachers appear to question the value and/or benefits of professional organizations as a lack of participation appears to imply.
5. A responsibility and opportunity exists for editors, authors, educational leaders and other staff members in making available to teachers significant information in magazines and journals inasmuch as this was one of the main sources of new ideas.
6. A need for inservice education for teachers appears to be in the area of human relationships and self-understanding.

Recommendations

Based upon the findings of this study, the following recommendations are offered:

1. Since this study was (1) referenced in two studies previously conducted on a national basis, and (2) originally conducted on a statewide level, it should be replicated in other states to identify further perceptions of home economics teachers in order that a base may be established on a national scale for program planning, identification of priorities in concepts, clarification of role expectations of teachers of home economics, and facilitation of greater accountability of administrators to teachers and to society as a whole.
2. Since responses in this study may represent biases due to acquiesence or rebellion associated with the role of administration inasmuch as permission from superintendents to conduct the study were required, alternative studies with a different approach are recommended. Peer interviews or drawing a subsample based on professional affiliations may be considered for such studies.
3. Inservice and preservice training in change as a discipline within a sociological and psychological context is strongly recommended for educational personnel on all levels. This recommendation is based upon the findings that some superintendents refused to allow teachers in their school systems to voluntarily participate in the research; teachers did not perceive their supervisors as a source of new ideas; and 70 percent of the teachers perceived themselves as having no unusual or unique features in their programs.

THE COMPARATIVE COST OF TEACHING VOCATIONAL AND NON-VOCATIONAL SUBJECTS IN THE SENIOR HIGH SCHOOLS OF THREE VIRGINIA LOCALITIES

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Statement of the Problem

Through the years, public school administrators in Virginia have claimed that the cost of vocational education has far exceeded the cost of non-vocational education. These claims, unfortunately, have led to the development of a concept that vocational education programs, regardless of their effectiveness or benefit to the secondary students, are so costly that some school systems can afford to make available only a token program of vocational education. In those areas where school officials have developed an exemplary program, the fiscal officers, superintendents and other administrators, frequently have objected to the expansion of current programs because of the "expensiveness" of vocational education. High school principals, disregarding the interests or needs of their students, have often failed to expand or encourage expansion of the vocational curriculum. The initial cost of equipment and its maintenance, the cost of furnishing adequate supplies, and the reduced pupil/teacher ratio are major factors cited as deterrents to the initiation or expansion of vocational programs.

School administrators, who predicate curricular decisions totally or in part on the cost factor of teaching a particular subject or group of subjects, need reliable fiscal data upon which to base their decisions. Local and state directors of vocational education in Virginia need statistical data which will assist them in budgetary preparation and justification.

Questions which need to be answered are: Is it more costly to educate Virginia high school vocational students than non-vocational students? If so, how much more costly? Are there vocational subjects which are taught for less cost than

non-vocational subjects? Within the vocational curriculum, what is the comparative cost of the various vocational subjects?

Answers to these questions, substantiated by data secured from representative school districts in Virginia, would be most valuable to state and local educational administrators and to school boards and advisory committees which assist them in their decision-making processes.

Purpose of the Study

The purpose of this study was to determine and compare the per-pupil cost of teaching vocational subjects with the cost of teaching non-vocational subjects in the senior high schools and the vocational centers of three Virginia localities in 1973-1974.

Methodology

Visitations were made to three school systems in the Commonwealth: Locality A, a large urban system with an average daily membership of 48,432 pupils in 1973-1974; Locality B, a medium sized urban school system with a membership of 16,797 pupils; Locality C, a rural system with 10,436 pupils in membership. The combined total membership of these localities represented 7.04 percent of Virginia's average daily membership in 1973-1974.

Since the primary intent of the study was to compare the cost of teaching non-vocational subjects with that of teaching vocational subjects, only those costs having a direct bearing on the teaching of a subject were considered. Administrative, clerical, supportive, operational, and fixed charges, which are normally prorated, were excluded from consideration.

Each full-time teacher who held a ten-month contract was assigned the average secondary teacher's salary as reported by the respective school system (Locality A = $10,623; Locality B = $10,502; Locality C = $9,522). The salaries of teachers holding extended contracts were increased accordingly, using the average secondary salary as the basic ten-month salary. The non-instructional differentials and supplements were excluded in the computations dealing with average salaries.

Findings

1. In none of the three localities studied, could the supply, equipment, and other direct costs expended for various subjects be clearly determined and assigned to specific subjects unless an exhaustive search was undertaken during which each purchase order written by the respective system was examined individually. The limitations of the accounting processes used by the respective school systems prohibited the retrieval of complete, accurate information which would permit a valid, all-inclusive cost analysis to be made.
2. When the per-pupil cost was predicated upon an average salary assigned to the teachers and the number of pupils instructed by those teachers, vocational education subjects were more costly than non-vocational subjects.
3. Vocational education subjects cost 25.71 percent more than non-vocational subjects in Locality A for 1974 FY, 28.59 percent more in Locality B, and 38.19 percent more in Locality C. The average increased cost of the three localities was 28.32 percent.

This increased cost was attributable to two factors: (1) the reduced pupil load of vocational teachers compared to that of non-vocational teachers, and (2) extended contracts assigned to vocational teachers. The additional cost incurred from the pupil/teacher ratio was approximately three times greater than the additional cost which was incurred as a result of the extended contracts.

4. As the size of the school system decreased, the more costly the vocational subjects became over non-vocational subjects.
5. Certain non-vocational subjects have a higher per-pupil cost than certain vocational subjects. Foreign language and special education were more costly than one or more vocational subjects in each of the three localities. Military science was more costly in Localities A and B than any vocational subject. Driver education was more costly in Localities B and C than any vocational subject.
6. Selected vocational subjects taught in some comprehensive high schools were more costly than selected vocational subjects in the vocational centers.
7. The average per-pupil cost of vocational subjects in the vocational centers of two localities was less than the per-pupil cost of vocational subjects in the comprehensive high schools of those localities.
8. When the per-pupil per-subject costs for the three school systems were ranked and the rankings compared, a high correlation factor resulted.
9. When the per-pupil per-subject costs of vocational subjects for the

three locales were averaged, business education was the least costly, followed by trade and industrial, distributive, home economics, industrial arts, and agricultural education.

ANALYSIS OF EVALUATION FORMS

Conference participants were asked to evaluate the conference by responding to five open-ended or free response questions. An Evaluation Form developed by the Donaldson Brown Continuing Education Center of VPI & SU, was used by participants in evaluating the conference. The Evaluation Form also contained a Likert rating scale in which the participants were asked to respond to ten items by checking either strongly agree, agree, undecided, disagree, and strongly disagree.

In general conference participants felt the objectives of the conference were realistic; the resource people were well prepared; the conference followed a logical pattern; and they felt they were stimulated to think objectively about the topics presented.

Free-Response Section

1. What did you consider to be the best feature in the program presented here?

   With slightly more than 50 percent of the conference participants responding, it was revealed that the overall quality of the conference consultants, Bob Warmbrod's presentation at the general session, Dave Pucel's special interest session on designing evaluation and follow-up studies; Bob Warmbrod's special interest group presentation on proposal writing and concern on the part of the conference director and others toward the conference participants were the outstanding features of the conference.

2. What did you consider to be the weakest feature in the conference?

   The conferance short time span; not having the opportunity to attend more than one special interest group session; the timing or "holiday" weekend, and not enough time to meet people and exchange ideas were the expressed constructive criticisms of the conference as indicated by one-third of those who responded. The remaining two-thirds responding to the evaluation form indicated either "no weaknesses" or "no major weaknesses that warrant major improvement" or "all aspects of conference were strong." Finally, several participants did complain about one of the meeting rooms being too hot.

   It should be pointed out that there was little criticism relative to actual conferance performance or operation. The criticism basically centered around the fact that it was being conducted during an Easter weekend, and only for one and a half days rather than for about three as was suggested by a conference participant. Unfortunately these

were two factors the conference planners had little or no control over relative to depending on available dates for using the conference facilities of the Continuing Education Center and limited financial resources.

3. Check your general evaluation of program content of conference:

   Valuable 92% Interesting 7.3% Fair .7%

   Of Little Value 0

   At least nine of every ten conference participants felt the conference was valuable. They felt information given during the conference was valuable and that, in general, the conference met their needs and expectations.

4. What suggestions do you have for improvement of the program?

   Suggestions for improvement included:

   a. Allow more time for audience interaction with presenters of reported research

   b. Shorten report time on mini presentations of completed research

   c. Expand conference to at least three or four days

   d. More material incorporated as "handouts"

5. What topics would you like to have presented at a future program/ conference?

   a. Strategies for implementing research findings in vocational education

   b. Alternatives to state and federal funding in vocational education

   c. The effect of funding source upon the type of research conducted in vocational education

   d. More on proposal writing and grantsmanship

   e. More information on research designs appropriate for vocational education research.

   f. Identifying thrust for state or region and set up specific goals for research and implementation

   g. The research process and techniques of conducting research

   h. Specific problems of proposal writing

   i. Resources for funding small research projects

   j. More emphasis on post-secondary research, i.e., community colleges

APPENDIX A

LIST OF PARTICIPANTS

REGIONAL RESEARCH CONFERENCE IN VOCATIONAL AND TECHNICAL EDUCATION
FOR SECONDARY AND POST-SECONDARY PERSONNEL

Program Number: 7604-1617-1446

Dates: April 16 - 17, 1976

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    Amherst, Mass. 01002

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    Lane Hall
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    VPI & SU
    Blacksburg, VA 24061

13. David Eyler
    Blue Ridge Comm. College
    Weyers Cave, VA 24486

14. Joseph G. Freund
    1900 Washington St., E.
    Charleston, WV 25311
    W. VA Dept. of Education

15. Billy Friend
    New River Comm. Coll.
    Dublin, VA 24084

16. Ricardo Vincenzo Gaeta
    300 Seitz Hall
    VPI & SU
    Blacksburg, VA 24061

17. Dolores Y. Johns
    VPI & SU
    Blacksburg, VA 24061

18. Larry Johnson
    Office of Superintendent
    of Public Instruction
    State Capitol
    Helena, Montana 59601

19. Pat King
1400 Locust Ave.
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20. Phyllis A. King
Price House
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Blacksburg, VA 24061

21. Jere Kirkley
6500-H Terrace View
Blacksburg, VA 24060
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22. Carol P. Kowle
321 Education Bldg.
Univ. of Wisconsin
Madison, WI 54306

23. Thomas J. LaBonte
101 College Parkway
Arnold, MD 21012
Anne Arundel Comm. College

24. F. Wendell Latham
Stafford Co. School Bd.
P.O. Box 5099, Stafford H.S.
Falmouth, VA 22401

25. Jack R. Lewis
Rt. 7, Box 324
Danville, VA 24541

26. C. Daniel Litchford
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Blacksburg, VA 24061

27. Era Looney
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28. Tom Lozito
Dutch Village, T-2
Blacksburg, VA 24060

29. Martin B. McMillion
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Blacksburg, VA 24061
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30. Melvin Mabry
New River Comm. College
Dublin, VA

31. Joyce A. Martin
Rt. 1, Box 310
Blacksburg, VA 24060

32. George F. Montgomery
UPO 797, Business Ed. Dept.
Morehead State Univ.
Morehead, KY 40351

33. M. Carter Murphy
2541 Bogese Dr.
Petersburg, VA 23803
Petersburg City Schools

34. Merrill M. Oaks
364 Cleveland
Pullman, WA 99163
Washington State Univ.

35. J. Dale Oliver
215 Lane Hall
VPI & SU
Blacksburg, VA 24061

36. Patrick Arthur O'Reilly
318 Lane Hall
VPI & SU
Blacksburg, VA 24061

37. David J. Oscarson
622 Lee St.
Blacksburg, VA 24060
VPI & SU

38. E. Mark Pace
c/o Valley Voc-Tech. Center
Fishersville, VA 22939
Staunton-Waynesboro-Augusta Co.

39. Prince E. Parham
Chesapeake City Schools
300 Cedar Rd.
Chesapeake, VA 23320

40. Robert L. Quigley
2203 National Rd.
Wheeling, WV 26003
Ohio County Schools

41. Barry Reese
2305 San Marcos
Blacksburg, VA 24060
VPI & SU

42. Vivian V. Rockwood
1902 Kenwood Dr.
Johnson City, TN 37601
East Tennessee State U.

43. Steven J. Rumpf
Price House, EPDA Fellow
VPI & SU
Blacksburg, VA 24061

44. Dorothy A. Savedge
Longwood College
Farmville, VA 23901

45. Jack L. Schinstock
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Blacksburg, VA 24061

46. Isabel B. Sherdon
3094 Derring Hall
VPI & SU
Blacksburg, VA 24061

47. William J. Smith
1000 E. Main St.
Wytheville, VA 24382
Wytheville Comm. Coll.

48. Robert W. Stump
1200 19th St., NW
Rm. 601-B
National Institute of Ed.
Washington, D.C.

49. Charles J. D. Tillman
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Ag. Education
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Blacksburg, VA 24061

50. Winston Lee Underwood
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VA State College

52. Anita Webb
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Blacksburg, VA 24061

53. Rodney Wilkins, Jr.
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54. Shirley Wilson
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VPI & SU

55. Donald Kohns
VPI & SU
Blacksburg, VA 24061

56. Louise B. Compton
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57. Harriet Gaudino
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58. Shirley Gerken
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59. James L. Hoerner
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60. David Lee Nelson
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VPI & SU

61. W. G. Puckett
5000C Terrace View
Blacksburg, VA 24060
VPI & SU

62. Carol Whitaker
VPI & SU
Blacksburg, VA 24061

APPENDIX B

CONFERENCE PROGRAM

Friday, April 16, 1976

8:00-10:00 Registration - Lobby, CEC

10:15 FIRST GENERAL SESSION

Presiding, Dr. Era Looney, VPI & SU

Welcome - Dr. Karl Hereford, Dean
College of Education

Dr. Dewey A. Adams, Director
Division of Vocational and Technical Education
VPI & SU

Dr. Robert Sullins, Chairman
Virginia State Advisory Council on Vocational Education

Recognition of Guests

Conference Overview and Objectives - Dr. Alan Sheppard
Conference Director
VPI & SU

Introduction of Speaker - Dr. Rufus Beamer, Executive Director
The Virginia State Advisory Council on
Vocational Education

Speaker - Dr. J. Robert Warmbrod, President
The American Vocational Education Research Association
and
Professor of Agricultural Education
The Ohio State University
Columbus, Ohio

Topic - The Importance of Research in Vocational and Technical Education

11:30 Audience Participation (Question and Answer Period)

11:50 Announcement

12:00 Adjournment

12:00-1:30 Lunch

1:30 SECOND GENERAL SESSION

Presiding, Dr. Martin McMillion

Panel Discussion - A Critique of Research in Vocational and Technical Education at the Secondary and Post-Secondary Levels

Members:

Dr. Walter Ramey
Assistant Professor of Secondary and Post-Secondary Education
Virginia Commonwealth University and State Department of Education
Richmond, Virginia

Dr. Fred Snyder, Director
Research, Development and Planning
Virginia Community College System
Richmond, Virginia

Dr. Barry Reece
Associate Professor of Distributive Education
Division of Vocational and Technical Education
VPI & SU

2:30 Audience Participation

3:00 Refreshment Break

3:30 Special Interest Groups

FRONT AUDITORIUM - Proposal Writing and Project Planning

Dr. J. Robert Warmbrod, President
American Vocational Education Research Association

Mr. Tom Lozito
EPDA Fellow

CONFERENCE ROOM C - Designing Evaluation and Follow-Up Studies in Vocational and Technical Education

Dr. David Pucel
Professor of Vocational and Technical Education
University of Minnesota

Patricia King
Doctoral Student
Vocational and Technical Education

CONFERENCE ROOM E - Developing Management Information Systems in Vocational and Technical Education

Mr. L. M. Jewell
State Supervisor
Vocational Education Research and Statistical Information
Richmond, Virginia

Dr. Don Elson
Assistant Professor
Division of Vocational and Technical Education
VPI & SU

CONFERENCE ROOM F - Critique and Selection of Designs for Investigating Problems in Vocational-Technical Education

Dr. Curtis Finch
Program Leader
General Vocational and Technical Education
Division of Vocational and Technical Education
VPI & SU

Dr. Pat O'Reilly
Division of Vocational and Technical Education
VPI & SU

5:30 Adjournment

6:30 Banquet

Toastmaster - Dolores Johns
Division of Vocational and Technical Education
VPI & SU

Speaker - Dr. Glenn Boerrigter
Chief of Research Branch
Division of Research and Demonstration
Bureau of Occupational and Adult Education
U. S. Office of Education
Washington, D.C.

Topic - The Impact of Federal Funds and Establishment of Priorities for Research in Vocational and Technical Education

8:30 Adjournment

Saturday, April 17, 1976

8:30 THIRD GENERAL SESSION

Presiding - Dr. Donald Kohns, VPI & SU

Panel Discussion: Issues and Problems in Conducting Research in Vocational and Technical Education

Members:

Dr. Glenn Boerrigter
Dr. Dave Pucel
Dr. J. Robert Warmbrod
Dr. Dale Oliver

9:30 Limitations on Data Collection Under New Federal Legislation

Speaker - Dr. Dave Alexander
Division of Administrative and Educational Services
College of Education
VPI & SU

10:10 Refreshment Break

10:30 Mini Reports of Recently Completed Research Projects at Secondary and Post-Secondary Levels

Career Development Counseling with Video Tape Recording

Presenters - Mr. William Bias
Mr. Jesse Zedd
New Kent County Schools

Follow-Up Study of Virginia Occupational Technical Students at Virginia Community Colleges

Presenter - Dr. Edith Carter
Director of Institutional Research
New River Community College

Change Orientation and Perceptions of Emerging Professional Roles Held by Teachers of Home Economics in Virginia

Presenter - Dr. Florence Hood
Department of Home Economics
Norfolk State College
Norfolk, Virginia

The Comparative Cost of Funding Vocational and Non-Vocational Subjects in the Senior High School in Three Virginia Locations

Presenter - Mr. Robert Wooldridge
Director of Vocational Education
Norfolk City Schools
Norfolk, Virginia

12:15 What Has Happened? Where Do We Go From Here?

Alan Sheppard
Conference Director

12:30 Adjournment

Conference Advisory Committee

Dr. Alan Sheppard, Chairman
Dr. Rufus Beamer
Ms. Dolores Johns
Ms. Patricia King
Dr. Era Looney
Mr. Tom Lozito
Dr. Donald Kohns
Dr. Martin McMillion
Dr. Dale Oliver
Mr. James Roper

APPENDIX C

REFERENCE MATERIALS ON PROPOSAL WRITING AND PROJECT PLANNING

WINNING A RESEARCH BID*

Tips on Proposal Writing

Today's educational researchers have at least one thing in common with Christopher Columbus--difficulty in locating financial backers. And they have one hurdle he didn't have to worry about--a written research proposal that has to compete with a lot of others.

Under the small research grants program now being administered by the regional offices of the U. S. Office of Education, the "little guys," who used to lose out to the pros, can get advice that may lead to a research contract.

At the Chicago office, for example, Joseph Murnin logs thousands of miles each year as director of educational research for the area. One of his biggest audiences is would-be researchers interested in the kinds of projects that qualify under the small grants program--projects dealing with educational problems that can be handled in less than 18 months and without exceeding $10,000. The advice he gives them is simple: Start with a researchable problem. Write clearly and in sufficient detail to explain what the project seeks to do. Keep the language simple and to the point. Don't be afraid to consult a specialist if help is needed for a particular portion of the proposal. Ask someone not concerned with the problem to read what you have written to see if it makes sense.

"Emerging researchers sometimes have difficulty delimiting their problem," says Murnin. "Too often they insert a series of subquestions that the reviewers know will make the project unwieldy and impractical from the point of view of time, budget, and involvement of the investigator."

The second big problem potential researchers trip over, he says, is communication. "Never assume under the evaluation process that the reviewers will accept intent," cautions Murnin. "When clarity is lacking, the consensus will generally be that the initiator of the proposal either does not know or is quite naive. It is understandable that being close to a particular problem may put the researcher in the situation of not seeing the forest for the trees, but it is likely to get his project disapproved."

<u>You've got to convince your peers that you know what you are doing and that it needs to be done</u>.

As to language, he points out that "reviewers are not impressed by complicated, wordy statements that they have to take time out to translate."

"The review procedure is conducted by your peers, so bear that in mind in developing your ideas," Murnin advises. "Remember that a variety of competencies will enter into the evaluation. One reviewer may read the proposal as a content specialist and judge its educational significance in light of his knowledge of past research. Another may consider whether the evaluation procedures described in the proposal will yield meaningful information."

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*From <u>American Education</u>, May, 1968.

Reviewers follow a standard set of criteria developed by the Bureau of Research at the U. S. Office of Education, so would-be researchers would do well to use the standard format, section by section, in developing the proposal. The criteria are:

-- Educational significance: importance of the problem, soundness of the theoretical basis, generalizability or transfer of the results to other educational settings, and uniqueness or redundancy in relation to similar research.

-- Soundness of the research design: clarity and logic in the statement of problems, objectives, procedures, and relationships among these three. Do the procedures to be followed include, where applicable, information on sampling techniques, controls, data to be gathered, instruments to be used, and statistical and other analyses to be made?

-- Personnel and facilities: professional competence and experience of the principal investigators to carry out the work required; adequacy of the facilities.

-- Economic efficiency: Is the probable outcome worth the time and money involved?

-- Other specific criteria as applicable: This section may include such questions as: Is the project something the institution should do for itself? Will the project contribute something of value, or is it just something the institution has not done before? Can the end product serve settings other than the one in which the project is conducted?

Jargon is out on "in" proposals. Keep the language clear, simple, and to the point--from the title on.

If reviewers--either meeting together as a panel or reading and reporting separately, with a coordinator synthesizing a comprehensive review from the reports--give a proposal a failing grade in any of these criteria, then the proposal is considered unworthy of being supported with program funds.

The guidelines, supplied upon request to persons wishing to prepare project proposals, include valuable advice about format. These generally ask for a half dozen particulars: A concise statement of the whole project, written so that lay readers can understand it without reading the whole proposal; the proposal itself, opening with the objective and stating what questions or issues will be raised; a statement of the result of a search of related research, indicating the gap the study proposes to fill; a procedure section that outlines the specific approach to the objectives, what is to be done and why; and a description of the selection and testing of the subjects involved.

"You should describe the tests in some detail, as well as the materials to be used, and enclose samples of questionnaires," Murnin cousels.

Some other tips about the guidelines: Don't forget to include a time schedule or explain how you plan to disseminate the results to the educational community. If you use footnotes or a bibliography, be careful to limit it to articles actually used as references. Develop the budget realistically and with enough flexibility to permit some negotiation.

When all these elements have been taken care of, the last and possibly the most important part of the proposal remains--the title page. The format of the title page is specified in the program guidelines, along with the signatures required. But the title itself is the first thing that strikes the reviewer's eye and his first impression may well condition his reaction to the entire project.

The title should be as short as possible and written in lay language. For example, one title, "Information Processing in Children as a Function of Model, Information Display, School Grade, and Sex," had to be edited to "Investigation of the Manner in Which Young People Process Intellectual Information." Murnin suggests the blue ribbon for tongue-twisting jawbreakers ought to be awarded to: "The Relationship of Spiral and Block Curriculum Sequences Implemented by Either the Discovery or Expository Approach to Instruction to Varying Cognitive Levels of Mathematical Achievement of Learners of Various Characteristics."

With a title like that, who would want to read the proposal, much less give public funds to the fellow who contrived it?

SOME GUIDELINES ON THE "ART OF GRANTSMANSHIP"*

Guidelines for grant proposal preparation were described in the October 1, 1964 issue of this newsletter. Requests have come to our office for republication of these guidelines. Such aids are ever more important as we move into the time period of reduced budgets concomitant with much more competition for grant money.

We must now recognize the importance of the Art of Grantsmanship--a creative idea described clearly, succinctly and with the right words!

Actually we will state the guidelines in the form of test questions for a proposal:

1. Is the problem area clearly established? Is it related adequately to the larger context of which it is a part? Have the limits of the problem been specified to show that the proposed study will be restricted to an appropriate scope? Is the problem adequately justified as the choice for study from others in the larger context of which it is a part?

2. Are the specific objectives of the proposal clearly stated? Are these goals realistic in view of time, equipment, budget, and professional experience of the principal investigator? Have these goals been justified by reference to other possible goals? Indeed, is there evidence that the author has considered the other possible goals?

3. Is there an erudite exposition of the theory or conceptual framework to which this study is expected to make a contribution? Is it clear how the proposed study will make this contribution?

4. Are the specific hypotheses or research questions clearly stated? In fact, can these be directly deduced from the theory or conceptual framework cited above? Are they (and thus the theory) unequivocally relevant to the stated problem area?

5. Is there a concise but adequate review of the literature? Are each of the references truly relevant to the problem area and/or to the methodology of the proposed study? Is the literature review merely an annotated bibliography or is it a scholarly critique? Is the format of the review systematic?

6. Are the experimental design and proposed methodology clearly stated? Are they realistic in terms of time and money? Does the plan, in fact, permit an unequivocal test of the stated hypotheses or research questions? Is the methodology within range of the skill level of the principal investigator? Has sufficient thought been given to sampling problems and other restrictions on generalizing the results and have these limitations been acknowledged and justified? Have the physical resources been specified?

7. Has the work schedule been specified clearly, and is it realistic in terms of time and money? Is there too much dependence on "consultants"?

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*From "OSU Research News." Office of Research, The Ohio State University, Vol. 5, No. 19, October 18, 1968.

8. Is the budget "within the ball park" as indicated by previous contracts or grants for similar work from the same sponsor? Are unusually expensive parts of the budget itemized and justified?

9. Is the proposal being sent to the right sponsor? If so, is his suggested format followed throughout the proposal?

THESE WILL BRING RESULTS!

OUTLINE FOR A RESEARCH PROPOSAL

I. Title

II. The Problem (What is to be investigated and why?)

- A. Background and setting
- B. Statement of the problem
- C. Significance of the problem

III. Related Research and Theory (What has been done that is relevant?)

IV. Objectives (What specific questions will be answered or what research hypotheses will be tested?)

V. Procedures

- A. Population and Sample (What is the target population? How will the sample be drawn?)
- B. Design (What is the structural plan? How are sources of error to be controlled?)
- C. Data and Instrumentation (What will be measured? How?)
- D. Analysis of Data (How will the data be examined?)

VI. Time Schedule (How much time will be needed to complete each phase of the project?)

VII. Personnel (Who will conduct the project? What is their relevant competence?)

VIII. Facilities, Equipment, and Supplies (What facilities, equipment, and supplies are required to complete the project?)

IX. Budget (How much will the project cost?)

References

Jack Crawford and Cathy Kielsmeier. Proposal Writing: A Manual and Workbook. Corvallis, Oregon: Continuing Education Publications, Oregon State University, 1970. 169 pp.

David R. Krathwohl. How to Prepare a Research Proposal. Syracuse, New York: Syracuse University Book Store, 1966. 51 pp.

Paul E. Resta and Robert L. Baker. "Components of the Educational Research Proposal." In Robert L. Baker and Richard E. Schutz (Editors), Instructional Product Research. New York: American Book Company, 1972. pp. 89-133.

A CHECK LIST FOR PLANNING A RESEARCH STUDY*

A. Scope and definition of study

1. Is your study related to an educational problem?
2. Is your problem being considered broadly enough?
3. Have you sufficiently limited your problem?
4. Have you made the educational implications of the study clear?
5. Have your decisions benefited by the experiences of investigators who have preceded you?
6. Have you consulted the Encyclopedia of Educational Research, the Handbook of Research on Teaching, the Review of Educational Research and other background sources?

B. Hypotheses or questions to be answered

1. Are the hypotheses clearly and precisely stated?
2. Are the hypotheses stated in a form that permits them to be tested?

C. Definitions

1. Are concepts adequately and accurately defined?
2. Are your sample and experimental procedures sufficiently described so that another investigator would be able to replicate the study?
3. Do the measurements of variables in the study have validity?

D. Method of study

1. Is there a direct relation between the question which the study is trying to answer and the data to be collected?
2. Do you have a plan for securing the data necessary for your study?
3. When more than one investigational approach is available, it is worthwhile to compare the results using different criteria?
4. Can you draw conclusions as to cause and effect from evidence as to relationship from the design employed?
5. How do you propose to select your subjects for study?

E. Design

1. Have you conferred with the persons and/or agencies involved?
2. Is the design of your study clearly formulated?
3. Do you have a PERT chart or a systematic schedule of procedures for the study?
4. Is it feasible to assign subjects randomly to treatment groups?
5. Have you considered the possibility of statistically equating groups on relevant factors?
6. Have you included the most relevant variables in a factorial design so that you can detect interaction between variables?
7. Is your choice of statistical methods the most efficient for the intended purposes?

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*Adapted from: Symonds, P. M. "A Research Checklist in Educational Psychology," Journal of Educational Psychology, (1956), 47:101-9

Bicking, Charles A. "Some Uses of Statistics in the Planning of Experiments," Industrial Quality Control, (1954), 10:23.

8. Have you consulted statistics, measurement, and research specialists in the design and analysis of your study?
9. Are there standard library computer programs available for your purposes?
10. Have you determined limitations of time, cost, materials, manpower, instrumentation, and other facilities and extraneous conditions?
11. Have you given consideration to the human and personal relations "side-effects?"

F. Sampling

1. Is your sample representative of the group to which you wish to generalize your findings?
2. What factors may be biasing the selection of subjects?
3. Are you taking into account the subgroups in your total sample?

G. Criteria factors

1. How do you propose to measure achievement, intelligence, attitudes, and interests you plan to investigate?
2. Have you purchased or developed the tests, instruments, and materials needed?
3. Are you going to attempt to ensure that your subjects or judges express their true feelings and attitudes?
4. Have you given sufficient study to determine the best criteria for your study?
5. Have you taken into account the difficulty level and readability of your test for your subjects?
6. If you are using a non-standardized test, how are you determining its reliability and validity?
7. Have you consulted Buros Mental Measurements Yearbook for critical reviews of standardized measures to be employed in your study?
8. If you plan to use judgments, have you specified the basis on which your judgments would be made?
9. If you plan to use judgments, are you sure your judges have the necessary intelligence, information, background, and other qualifications to permit them to make the judgments?
10. To what extent will bias enter into judgments that you propose to make (or use), and how can these be avoided?

H. Interpretation of results

1. Have you confined your conclusions to the evidence at hand?
2. Have you tempered your conclusions with the practical meaning of the results as well as with their statistical significance?
3. Have you pointed out implications of the findings for application and for further study?
4. Have you accounted for any inconsistencies and limitations imposed by the methods used?
5. Have you interpreted findings in light of operational definitions of variables investigated?

I. Preparing the report

1. Have you described your work clearly in order that, if necessary, it could be replicated by a later investigator?
2. Have you used tabular and graphic methods for presenting the results where possible?
3. Have you supplied sufficient information to permit the reader to verify results and draw his own conclusions?
4. Have you plans for publishing your study?

APPENDIX D

VIRGINIA VOCATIONAL EDUCATION MANAGEMENT INFORMATION REPORTING FORMS

VIRGINIA VOCATIONAL EDUCATION CLASS ENROLLMENT
FORM VERS 1.3

- Use No. 2 pencil.
- Do NOT use ink or ball point pen.
- Make heavy black marks that fill the circle completely.
- Erase completely any changes.
- Make no stray marks.

Example of PROPER marks: ●○○ ○●○ ○○●

Example of IMPROPER marks: ⊘○○ ○⊗○ ○○◐

1. SCHOOL NAME _____

2. COURSE TITLE _____

3. TEACHER'S NAME _____

4. TEACHER'S SOCIAL SECURITY NUMBER (9 digits, 0–9)

5. DIV. CODE (3 digits, 0–9)

6. SCHOOL CODE (4 digits, 0–9)

7. COURSE CODE (4 digits, 0–9)

8. Course Length (2 digits, 0–9)

9. No. of Periods (1 digit, 0–9)

10. Period Length (2 digits, 0–9)

11. Male (2 digits, 0–9)

12. Female (2 digits, 0–9)

13. Disad. (2 digits, 0–9)

14. Handi (2 digits, 0–9)

15. Cauc. (2 digits, 0–9)

16. Black (2 digits, 0–9)

17. Other (2 digits, 0–9)

18. Grade 8/below (2 digits, 0–9)

19. Grade 9/above (2 digits, 0–9)

20. Co-op 2 periods (2 digits, 0–9)

21. Co-op 3 periods (2 digits, 0–9)

22. Is this a special class for handicapped students?

○ YES

○ NO

24. FIRST O.E. CODE (6 digits, 0–9)

25. Total (2 digits, 0–9)

26. Co-op (2 digits, 0–9)

27. Two Courses (2 digits, 0–9)

28. Three Courses (2 digits, 0–9)

23.

A. Is this a special class for disadvantaged students?

○ YES ○ NO

B. If 'YES,' give source of funding:

○ PART B
○ PART 102B
○ PART G

29. SECOND O.E. CODE (6 digits, 0–9)

30. Total (2 digits, 0–9)

31. Co-op (2 digits, 0–9)

32. Two Courses (2 digits, 0–9)

33. Three Courses (2 digits, 0–9)

NCS Trans Optic F2782L 54321

34. THIRD O.E. CODE						35. Total		36. Co-op		37. Two Courses		38. Three Courses	
0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	1	1	1	1	1	1	1	1	1	1	1	1	1
2	2	2	2	2	2	2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6	6	6	6	6	6	6
7	7	7	7	7	7	7	7	7	7	7	7	7	7
8	8	8	8	8	8	8	8	8	8	8	8	8	8
9	9	9	9	9	9	9	9	9	9	9	9	9	9

39. FOURTH O.E. CODE						40. Total		41. Co-op	
0	0	0	0	0	0	0	0	0	0
1	1	1	1	1	1	1	1	1	1
2	2	2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6	6	6
7	7	7	7	7	7	7	7	7	7
8	8	8	8	8	8	8	8	8	8
9	9	9	9	9	9	9	9	9	9

42. FIFTH O.E. CODE						43. Total		44. Co-op	
0	0	0	0	0	0	0	0	0	0
1	1	1	1	1	1	1	1	1	1
2	2	2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6	6	6
7	7	7	7	7	7	7	7	7	7
8	8	8	8	8	8	8	8	8	8
9	9	9	9	9	9	9	9	9	9

45. SIXTH O.E. CODE						46. Total		47. Co-op	
0	0	0	0	0	0	0	0	0	0
1	1	1	1	1	1	1	1	1	1
2	2	2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6	6	6
7	7	7	7	7	7	7	7	7	7
8	8	8	8	8	8	8	8	8	8
9	9	9	9	9	9	9	9	9	9

48. SEVENTH O.E. CODE						49. Total		50. Co-op	
0	0	0	0	0	0	0	0	0	0
1	1	1	1	1	1	1	1	1	1
2	2	2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6	6	6
7	7	7	7	7	7	7	7	7	7
8	8	8	8	8	8	8	8	8	8
9	9	9	9	9	9	9	9	9	9

51. EIGHTH O.E. CODE						52. Total		53. Co-op	
0	0	0	0	0	0	0	0	0	0
1	1	1	1	1	1	1	1	1	1
2	2	2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6	6	6
7	7	7	7	7	7	7	7	7	7
8	8	8	8	8	8	8	8	8	8
9	9	9	9	9	9	9	9	9	9

54. NINTH O.E. CODE						55. Total		56. Co-op	
0	0	0	0	0	0	0	0	0	0
1	1	1	1	1	1	1	1	1	1
2	2	2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6	6	6
7	7	7	7	7	7	7	7	7	7
8	8	8	8	8	8	8	8	8	8
9	9	9	9	9	9	9	9	9	9

57. TENTH O.E. CODE						58. Total		59. Co-op	
0	0	0	0	0	0	0	0	0	0
1	1	1	1	1	1	1	1	1	1
2	2	2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6	6	6
7	7	7	7	7	7	7	7	7	7
8	8	8	8	8	8	8	8	8	8
9	9	9	9	9	9	9	9	9	9

60. ELEVENTH O.E. CODE						61. Total		62. Co-op	
0	0	0	0	0	0	0	0	0	0
1	1	1	1	1	1	1	1	1	1
2	2	2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6	6	6
7	7	7	7	7	7	7	7	7	7
8	8	8	8	8	8	8	8	8	8
9	9	9	9	9	9	9	9	9	9

VIRGINIA VOCATIONAL EDUCATION STUDENT COMPLETION FORM VERS 3.2

- Use No. 2 pencil.
- Do NOT use ink or ball point pen.
- Make heavy black marks that fill the circle completely.
- Erase completely any changes.
- Make no stray marks.

READ THE INSTRUCTIONS PRINTED ON BACK OF THIS FORM.

TEACHER ONLY

1. Status: ○ A ○ B ○ C ○ D ○ E

2. Graduation — Month: ○ Jan ○ Feb ○ Mar ○ Apr ○ May ○ June ○ July ○ Aug ○ Sep ○ Oct ○ Nov ○ Dec — Year: ○ '75 ○ '76 ○ '77 ○ '78 ○ '79

3. Co-op: ○ YES ○ NO

4. Classification: ○ A ○ B ○ C

Student Name:

School Name:

5. Div. Code

6. School Code

7. Home Div. Code

8. O.E. Code

9. Home Telephone

10. LAST NAME FIRST NAME MI

11. STREET ADDRESS, P.O. BOX or ROUTE No.

12. CITY, TOWN or POST OFFICE

13. STATE
○ VA ○ DC ○ KY ○ MD ○ NC ○ TN ○ W Va

14. Zip Code

15. Age

16. SEX ○ Male ○ Female

17. STUDENT'S S.S. No.

18. Ethnic Origin
○ Black ○ Caucasian ○ Other

19. Last Grade Completed
○ 7 or below ○ 8 ○ 9 ○ 10 ○ 11 ○ 12

NCS Trans-Optic F2785L-54321

VIRGINIA VOCATIONAL EDUCATION STUDENT COMPLETION FORM VERS 3.2

This form is completed by students and instructors. Students will complete items 5-19. Instructors will complete items 1-4.

INSTRUCTION FOR TEACHERS

Refer to item explanations and definitions in the TEACHER'S GUIDE, 1975.

Refer to teacher instruction No. 2 in the guide. Do not complete a form for the student who does not come under any of the five categories.

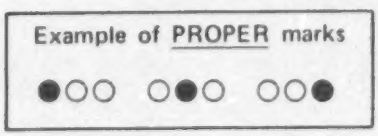
If a student has left the school, obtain the information from the student's record to complete item nos. 5-19.

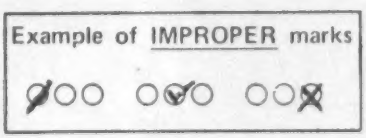
Use a No. 2 pencil. Any errors should be erased completely.

INSTRUCTION FOR STUDENTS

Use No. 2 pencil. Erase errors completely. Do not make any stray marks. Do not use ballpoint pen.

Where boxes are provided, write information in the boxes (one letter or number to a box), then blacken the circle with the letter or number that matches the letter or number in the box. Blacken the circle completely as shown below.





VIRGINIA STATE DEPARTMENT OF EDUCATION
VIRGINIA VOCATIONAL EDUCATION FOLLOW-UP FORM VERS 4.3

DIRECTIONS: This form contains six groups of questions. Start answering the questions in Group I. Where circles ○ are provided, blacken completely ● the circle beside your answer. When an answer requires writing, write only in the box following the question. Stay within the box. Please answer all questions in a group until you are instructed to move forward.

Use No. 2 pencil. Erase errors completely. Do not make any stray marks.

Do not fold, roll, staple, clip, or mutilate this form.

Use the large self-addressed envelope to return the completed form.

DO NOT WRITE OR MARK IN THIS AREA

GROUP I

1.1 What was your major vocational program in high school?
- ○ Agricultural Education
- ○ Business Education
- ○ Distributive Education
- ○ Home Economics Education
- ○ Trade and Industrial Education
- ○ Health Occupation Education

1.2 If you were to start all over again, what area of education would you select?
- ○ Same vocational education field
- ○ Different vocational education field (specify:)
- ○ Non-vocational education field

1.3 Were you able to enroll in the vocational education program of your choice?
- ○ Yes (if you mark "yes", go to item 1.5)
- ○ No

1.4 What was the major reason that you could not enroll in the vocational education program of your choice?
- ○ Unavailability of the program
- ○ Limitation of the class size
- ○ Counselor advised against it
- ○ Parents/teacher advised against it
- ○ Other reason

166

GROUP I Continued

1.5 What is your present status?
- ○ In the military service (go to GROUP IV)
- ○ Continuing education as a full-time student (go to GROUP IV)
- ○ Employed (go to GROUP II)
- ○ Unemployed (go to GROUP III)

GROUP II

2.1 What is the title of your present job?

Title

2.2 How many hours do you work per week?
- ○ Less than 30 hours
- ○ 30 hours or more

2.3 How do you like your present job?
- ○ Like it very much
- ○ Like it somewhat
- ○ Dislike it somewhat
- ○ Dislike it very much

2.4 Did you get the job because of vocational training in school?
- ○ Yes
- ○ No

GROUP II Continued

2.5 How often do you use the knowledge and skills gained in your major vocational program in school?
- ○ Frequently
- ○ Occasionally
- ○ Never

2.6 What is the pay per week (before deductions) on your present job?
- ○ $50 or under
- ○ $51 - $75
- ○ $76 - $100
- ○ $101 - $125
- ○ $126 - $150
- ○ $151 or over

GO TO GROUP IV

GROUP III

3.1 If you are not employed now are you looking for a job?
- ○ Yes
- ○ No

GO TO GROUP IV

174

NCS Trans-Optic F2786-54321

173

GROUP IV

4.1 How many full-time jobs (30 hours or more per week) have you had since leaving school?

167

- ○ None (Go to GROUP VI)
- ○ One (Go to GROUP V)
- ○ Two (Go to GROUP V)
- ○ Three (Go to GROUP V)
- ○ Four or more (Go to GROUP V)

GROUP V

Information on the first full-time job after leaving high school.

5.1 Was your first full-time job in the occupational area of your major vocational program?

- ○ Yes (If "yes", go to question 5.3)
- ○ No

5.2 If your first full-time job was not in the field of training, what was the major reason?

- ○ Tried, but couldn't find a job
- ○ Couldn't get into apprentice program
- ○ Better job came along first
- ○ Didn't want that type of work
- ○ Instructor advised against it
- ○ Other reason (explain):

5.3 What was the title of your first full-time job after leaving school?

5.4 How far from your high school was your first full-time job?

- ○ 0 - 25 miles
- ○ 26 - 50 miles
- ○ 51 - 100 miles
- ○ 101 - 200 miles
- ○ more than 200 miles

175

GROUP V Continued

5.5 Who helped you find your first full-time job? (mark all that apply)

- ○ Vocational teachers
- ○ Guidance counselors
- ○ Other teachers
- ○ Placement service at school
- ○ State employment service
- ○ Relatives
- ○ Others
- ○ Found it myself

5.6 If it took longer than you expected to find your first full time job, what was the most important reason?

- ○ No jobs available in the community
- ○ Wasn't interested in the jobs available
- ○ Parents wanted me to stay at home
- ○ Lacked skills or other qualifications for the jobs available
- ○ Was too young
- ○ Got married
- ○ Went to college
- ○ Other (specify):

5.7 How well did your vocational training prepare you for your first full-time job?

- ○ Exceptionally well
- ○ Well
- ○ Not too well
- ○ Poorly

5.8 What was the starting pay per week (before deductions) on your first full-time job?

- ○ $50 or under
- ○ $51 - $75
- ○ $76 - $100
- ○ $101 - $125
- ○ $126 - $150
- ○ $151 or over

GO TO GROUP VI

GROUP VI

6.1 Please rate your former school on each of the items below.

EXCELLENT	GOOD	FAIR	POOR	
○	○	○	○	Instructors' ability in teaching
○	○	○	○	Teachers' interest in students
○	○	○	○	Availability of different vocational education programs
○	○	○	○	Guidance/counseling service
○	○	○	○	Availability of career information
○	○	○	○	Information on availability of job opening
○	○	○	○	Tools and equipment
○	○	○	○	Condition of shops/labs
○	○	○	○	Condition of school building

If you have specific comments about your vocational training, teachers or school, please write them on a separate sheet of paper and enclose with this form.

176

THANK YOU FOR YOUR COOPERATION

VIRGINIA VOCATIONAL EDUCATION ADULT ENROLLMENT

FORM VERS 2.3A (FOR REIMBURSED COURSES)

- Use No. 2 pencil.
- Do NOT use ink or ball point pen.
- Make heavy black marks that fill the circle completely.
- Erase completely any changes.
- Make no stray marks.

Example of PROPER marks: ●○○ ○●○ ○○●

Example of IMPROPER marks: ⊘○○ ○⊘○ ○○⊗

1. TEACHER'S NAME

2. DIVISION NAME

3. COURSE NAME

4. CLOSING DATE OF COURSE — Month / Day / Year

5. Program Type:
- ○ Preparatory
- ○ Supplementary
- ○ Apprenticeship

6. Reason for Program Offering:
- ○ Standard Course
- ○ Requested by Local Employees
- ○ Requested by Local Employers
- ○ Requested by Adult Education Staff or Advisory Committee
- ○ Community Survey Indicated Need

7. Div. Code (3 digits)

8. SCHOOL CODE (4 digits)

9. TEACHER'S SOCIAL SECURITY NUMBER (9 digits)

10. Total Sessions (3 digits)

11. Total Course Hrs. (3 digits)

12. Total Employed (3 digits)

13. Total Unemployed (3 digits)

14. FIRST O.E. CODE (6 digits)

15. Males (3 digits)

16. Females (3 digits)

17. Regular (3 digits)

18. Disad. (3 digits)

19. Handicap (3 digits)

20. SECOND O.E. CODE (6 digits)

21. Males (3 digits)

22. Females (3 digits)

23. Regular (3 digits)

24. Disad. (3 digits)

25. Handicap (3 digits)

NCS Trans Optic F2783L-54321

26. THIRD O.E. CODE	27. Males	28. Females	29. Regular	30. Disad.	31. Handicap
0 0 0 0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0
1 1 1 1 1 1	1 1 1	1 1 1	1 1 1	1 1 1	1 1 1
2 2 2 2 2 2	2 2 2	2 2 2	2 2 2	2 2 2	2 2 2
3 3 3 3 3 3	3 3 3	3 3 3	3 3 3	3 3 3	3 3 3
4 4 4 4 4 4	4 4 4	4 4 4	4 4 4	4 4 4	4 4 4
5 5 5 5 5 5	5 5 5	5 5 5	5 5 5	5 5 5	5 5 5
6 6 6 6 6 6	6 6 6	6 6 6	6 6 6	6 6 6	6 6 6
7 7 7 7 7 7	7 7 7	7 7 7	7 7 7	7 7 7	7 7 7
8 8 8 8 8 8	8 8 8	8 8 8	8 8 8	8 8 8	8 8 8
9 9 9 9 9 9	9 9 9	9 9 9	9 9 9	9 9 9	9 9 9

32. FOURTH O.E. CODE	33. Males	34. Females	35. Regular	36. Disad.	37. Handicap
0 0 0 0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0
1 1 1 1 1 1	1 1 1	1 1 1	1 1 1	1 1 1	1 1 1
2 2 2 2 2 2	2 2 2	2 2 2	2 2 2	2 2 2	2 2 2
3 3 3 3 3 3	3 3 3	3 3 3	3 3 3	3 3 3	3 3 3
4 4 4 4 4 4	4 4 4	4 4 4	4 4 4	4 4 4	4 4 4
5 5 5 5 5 5	5 5 5	5 5 5	5 5 5	5 5 5	5 5 5
6 6 6 6 6 6	6 6 6	6 6 6	6 6 6	6 6 6	6 6 6
7 7 7 7 7 7	7 7 7	7 7 7	7 7 7	7 7 7	7 7 7
8 8 8 8 8 8	8 8 8	8 8 8	8 8 8	8 8 8	8 8 8
9 9 9 9 9 9	9 9 9	9 9 9	9 9 9	9 9 9	9 9 9

38. FIFTH O.E. CODE	39. Males	40. Females	41. Regular	42. Disad.	43. Handicap
0 0 0 0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0
1 1 1 1 1 1	1 1 1	1 1 1	1 1 1	1 1 1	1 1 1
2 2 2 2 2 2	2 2 2	2 2 2	2 2 2	2 2 2	2 2 2
3 3 3 3 3 3	3 3 3	3 3 3	3 3 3	3 3 3	3 3 3
4 4 4 4 4 4	4 4 4	4 4 4	4 4 4	4 4 4	4 4 4
5 5 5 5 5 5	5 5 5	5 5 5	5 5 5	5 5 5	5 5 5
6 6 6 6 6 6	6 6 6	6 6 6	6 6 6	6 6 6	6 6 6
7 7 7 7 7 7	7 7 7	7 7 7	7 7 7	7 7 7	7 7 7
8 8 8 8 8 8	8 8 8	8 8 8	8 8 8	8 8 8	8 8 8
9 9 9 9 9 9	9 9 9	9 9 9	9 9 9	9 9 9	9 9 9

44. SIXTH O.E. CODE	45. Males	46. Females	47. Regular	48. Disad.	49. Handicap
0 0 0 0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0
1 1 1 1 1 1	1 1 1	1 1 1	1 1 1	1 1 1	1 1 1
2 2 2 2 2 2	2 2 2	2 2 2	2 2 2	2 2 2	2 2 2
3 3 3 3 3 3	3 3 3	3 3 3	3 3 3	3 3 3	3 3 3
4 4 4 4 4 4	4 4 4	4 4 4	4 4 4	4 4 4	4 4 4
5 5 5 5 5 5	5 5 5	5 5 5	5 5 5	5 5 5	5 5 5
6 6 6 6 6 6	6 6 6	6 6 6	6 6 6	6 6 6	6 6 6
7 7 7 7 7 7	7 7 7	7 7 7	7 7 7	7 7 7	7 7 7
8 8 8 8 8 8	8 8 8	8 8 8	8 8 8	8 8 8	8 8 8
9 9 9 9 9 9	9 9 9	9 9 9	9 9 9	9 9 9	9 9 9

50. SEVENTH O.E. CODE	51. Males	52. Females	53. Regular	54. Disad.	55. Handicap
0 0 0 0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0
1 1 1 1 1 1	1 1 1	1 1 1	1 1 1	1 1 1	1 1 1
2 2 2 2 2 2	2 2 2	2 2 2	2 2 2	2 2 2	2 2 2
3 3 3 3 3 3	3 3 3	3 3 3	3 3 3	3 3 3	3 3 3
4 4 4 4 4 4	4 4 4	4 4 4	4 4 4	4 4 4	4 4 4
5 5 5 5 5 5	5 5 5	5 5 5	5 5 5	5 5 5	5 5 5
6 6 6 6 6 6	6 6 6	6 6 6	6 6 6	6 6 6	6 6 6
7 7 7 7 7 7	7 7 7	7 7 7	7 7 7	7 7 7	7 7 7
8 8 8 8 8 8	8 8 8	8 8 8	8 8 8	8 8 8	8 8 8
9 9 9 9 9 9	9 9 9	9 9 9	9 9 9	9 9 9	9 9 9

VIRGINIA VOCATIONAL EDUCATION ADULT PREPARATORY STUDENT COMPLETION FORM VERS 5.3B

(For Non-Reimbursed Courses)

1. Division Name:

2. Teacher's Name:

3. Start/Completion Date of Student Program

A. START Month	A. START Year	B. COMPLETION Month	B. COMPLETION Year
○ Jan.	○ '70	○ Jan.	○ '75
○ Feb.	○ '71	○ Feb.	○ '76
○ Mar.	○ '72	○ Mar.	○ '77
○ Apr.	○ '73	○ Apr.	○ '78
○ May	○ '74	○ May	○ '79
○ June	○ '75	○ June	○ '80
○ July	○ '76	○ July	
○ Aug.		○ Aug.	
○ Sept.		○ Sept.	
○ Oct.		○ Oct.	
○ Nov.		○ Nov.	
○ Dec.		○ Dec.	

4. Student's S.S. No.

5. Div. Code

6. Home Div. Code

7. Student's Phone No.

8. LAST NAME, FIRST NAME, M.I.

9. Street Address, P.O. Box, or Route & Box No.

10. CITY, TOWN, or POST OFFICE

11. STATE

○ VA
○ DC
○ KY
○ MD
○ NC
○ TN
○ W. Va.

12. ZIP CODE

13. O.E. Code

14. Age

15. Educ.

16. SEX

○ Male
○ Female

17. TEACHERS ONLY

a. Classification	b. Program
○ A ○ B ○ C	○ A ○ B ○ C

179

NCS Trans-Optic F2788L 54321

VIRGINIA VOCATIONAL EDUCATION
ADULT PREPARATORY STUDENT COMPLETION FORM 5.3B
(For Non-Reimbursed Programs)

DIRECTIONS FOR STUDENTS

A. Use No. 2 pencil. Erase errors completely. Do not make any stray marks. Do not use ballpoint pen.

B. Where boxes are provided, write information in the boxes (one letter or number to a box), then blacken the circle with the letter or number that matches the letter or number in the box. Blacken the circle completely.

Example of PROPER marks	Example of IMPROPER marks
●○○ ○●○ ○○●	⊘○○ ○⊘○ ○○⊗

C. Complete items 1 through 16. Instructor will complete item 17a and 17b.

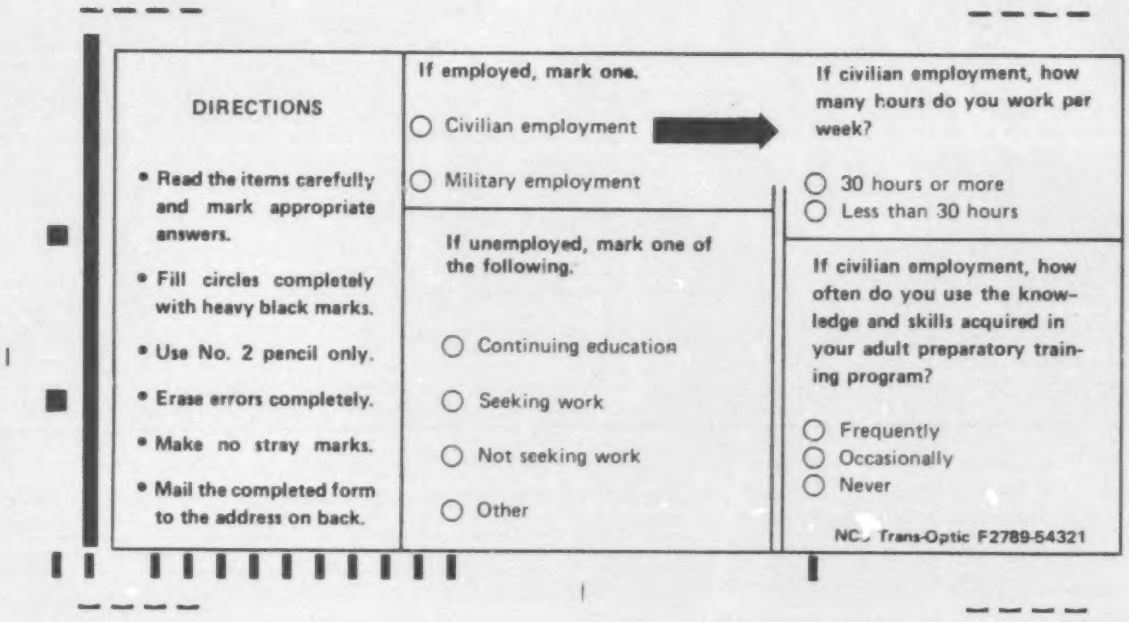
D. Return the completed form to your instructor.

DIRECTIONS FOR INSTRUCTORS

A. Refer to the Virginia Vocational Education Reporting System Teacher's Guide, 1975 for Form VERS 5.3B item explanations and definitions.

B. Complete item no. 17a and 17b.

OE 000 614



DIRECTIONS

- Read the items carefully and mark appropriate answers.
- Fill circles completely with heavy black marks.
- Use No. 2 pencil only.
- Erase errors completely.
- Make no stray marks.
- Mail the completed form to the address on back.

If employed, mark one.

- ○ Civilian employment
- ○ Military employment

If civilian employment, how many hours do you work per week?

- ○ 30 hours or more
- ○ Less than 30 hours

If unemployed, mark one of the following.

- ○ Continuing education
- ○ Seeking work
- ○ Not seeking work
- ○ Other

If civilian employment, how often do you use the knowledge and skills acquired in your adult preparatory training program?

- ○ Frequently
- ○ Occasionally
- ○ Never

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